SCIENTIFIC ACTIVITIES OF THE GOVERNMENT OF BRITISH COLUMBIA 1986–1987 SURVEY RESULTS

MINISTRY OF ADVANCED EDUCATION AND JOB TRAINING

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FOREWORD

This report, prepared by Rose Krakower of the Science, Technology and Capital Stock Division of Statistics Canada, presents a summary of results from the eleventh annual survey of scientific activities of the Government of British Columbia. The cooperation of the responding ministries and the assistance of Mr. Roy A. Whitaker, Chief, Regional Statistics, Central Statistics Bureau, Ministry of Economic Development are gratefully acknowledged and appreciated.

The tabulations include 1986-87 (actual) and 1987-88 (estimate) data on scientific activities in the natural and social sciences and humanities. Data on scientific activities in the social sciences and humanities were not collected for 1982-83 and 1984-85 but are estimates provided in the respective previous year.

In November 1986 there was a major reorganization of the ministries within the Government of British Columbia (see appendix). In an attempt to show actual expenditures for the 1986-87 fiscal period, programs with scientific activities are included with their originating ministry.

Science surveys, like many other surveys, are based on the respondents' interpretations of definitions and methods of calculation. Accounting records, which use a science-based classification are rarely used. Notwithstanding that the data are estimates, they are a good representation of current science expenditures and manpower utilization for the province.

The first surveys of government scientific activities at the provincial level were conducted in the provinces of Ontario, Alberta and Nova Scotia in 1974; Saskatchewan was included in 1975 and British Columbia in 1977. Nova Scotia dropped out of the suvey in 1977 due to lack of science policy user groups within the province. In 1984 New Brunswick carried out its first survey, followed by Manitoba and Newfoundland in 1985 and 1986 respectively. Reports, similar to this one for the other provinces are available on request from the sponsoring ministry or department. A list of contacts is appended to this report. A summary report, including a historical account of all science activities at the provincial government level, is now available from Statistics Canada.

The principal purpose for the survey is to provide a data base for analysis and formulation of provincial science policy. Data are used as a basis for intergovernmental and intersectoral comparison. The survey also provides data for the development of a national aggregate R&D series, which is published by Statistics Canada as listed at the end of this report. The national aggregates are required to complete the international questionnaires for the Organization for Economic Cooperation and Development (OECD) and the United Nations Education, Scientific and Cultural Organization (UNESCO)

TABLE OF CONTENTS

Page

Highlights

TEXT TABLE I.	B.C. Government Expenditures	9
TEXT TABLE II.	Total Expenditures on Scientific Activities, by Science Type and Activity, 1980-81 to 1987-88	10
FIGURE 1.	Total Expenditures on Science, by Activity, 1980-81 to 1987-88	11
TEXT TABLE III.	B.C. Government Expenditures on Science, by Activity and Performer, 1986-87	12
TEXT TABLE IV.	Total Expenditures on Science, by Source of Funds, 1986-87	13
TEXT TABLE V.	Ministerial Personnel Engaged in Scientific Activities, by Science Type and Category, 1986-87	14
TEXT TABLE VI.	Objectives of B.C. Government Science Expenditures	15

Statistical Tables

	All Sciences		Natural Sciences		Social Sciences	
	Table	Page	Table	Page	Table	Page
Historical Series:						
Total Expenditures:						
by Activity	1	18	23	50	45	84
by Ministry or Agency	2	19	24	52	46	85
by Performer	3	21	25	53	47	86
Current Expenditures on R&D:						
by Performer	4	22	26	54	48	87
by Ministry or Agency	5	23	27	55	49	88
Ministerial Personnel Engaged in Scientific Activities, by Activity and Category	6	25	28	56	50	89
Expenditures in 1986-87 Fiscal Year:						
Total Expenditures:						
by Ministry or Agency and Sources of Funds	7	26	29	57	51	90
by Activity and Performer	8	27	30	58	52	91
by Ministry or Agency and Performer	9	28	31	60	53	93
by Ministry or Agency and Activity	10	29	-	-	54	94

TABLE OF CONTENTS
(Continued)

	All Sciences		Natural Sciences		Social Sciences	
	Table	Page	Table	Page	Table	Page
Current Expenditures, by Ministry or Agency and Activity	-	-	32	61	-	-
Current Expenditures on R&D, by Ministry or Agency and Performer .	11	30	33	62	55	95
Detail of Intramural Expenditures, by Ministry or Agency	12	31	34	63	56	96
Ministerial Personnel Engaged in Scientific Activities, by Ministry or Agency, Activity and Category	13	32	35	64	57	97
Objectives of Expenditures:						
by Ministry or Agency	14	33	36	66	58	99
by Activity	15	37	37	71	59	102
Estimates for 1987-88 Fiscal Year:						
Total Expenditures:						
by Activity and Performer	16	38	38	72	60	104
by Ministry or Agency and Performer	17	39	39	73	61	105
by Ministry or Agency and Activity	18	40	-	-	62	106
Current Expenditures, by Ministry or Agency and Activity	-	-	40	74	-	-
Current Expenditures on R&D, by Ministry or Agency and Performer .	19	41	41	75	63	107
Ministerial Personnel Engaged in Scientific Activities, by Ministry or Agency, Activity and Category	20	42	42	76	64	108
Objectives of Expenditures:						
by Ministry or Agency	21	43	43	77	65	109
by Activity	22	47	44	81	66	112

TABLE OF CONTENTS

(Continued)

Charts	Chart	Page
Expenditures in the Natural Sciences, by Activity 1980-81 to 1987-88	1	51
Expenditures on Activities in the Natural Sciences, by Sector of Performance and Activity, 1986-87	2	59
Personnel Engaged in Activities in the Natural Sciences, by Activity and Category, 1986-87	3	65
Objectives of Expenditures in the Natural Sciences, 1986-87	4	70
Expenditures on Activities in the Social Sciences and Humanities, by Sector of Performance and Activity, 1986-87	5	92
Personnel Engaged in Activities in the Social Sciences and Humanities, by Activity and Category, 1986-87	6	98
Objectivies of Expenditures in the Social Sciences and Humanities, 1986-87	7	103

Appendix	Page
Definitions	114
The Respondents	116
Indicators of Provincial Scientific Activities	121
Contacts in Other Provinces	136
Publications of Statistics Canada on Science and Technology	137

The following symbols are used in this report:

-	nil or zero	(r)	revised figures
..	amount too small to be expressed	(e)	estimated figures
...	Figures are not available or not applicable		

HIGHLIGHTS

In the 1986-87 fiscal year B.C. government expenditures on scientific activities were equal to $92.7 million or 1.0% of estimated 1986-87 budgetary expenditures. While total government expenditures for 1987-88 are estimated to increase by 4.8%, scientific expenditures are expected to rise by 14.9%.

TEXT TABLE I. B.C. Government Expenditures

Year	GDP implicit price index(1) (1981=100)	Expenditures on scientific activities		Provincial budgeted expenditures(2)	Scientific activities/ provincial budget
		Current dollars	1981 dollars		
		($'000,000)		($'000,000)	(%)
1980-81	90.3	88.2	97.7	6,059.4	1.5
1981-82	100.0	83.9	83.9	7,087.5	1.2
1982-83	108.9	87.1	79.9	7,513.3	1.2
1983-84	114.3	76.9	67.3	8,356.4	1.0
1984-85	118.4	67.7	57.2	8,783.8	0.8
1985-86	122.4	81.1	66.3	9,146.3	0.9
1986-87	125.8	92.7	73.7	9,749.0	1.0
1987-88(e)	...	106.5	...	10,220.0	1.0

(1) Source: Bank of Canada Review, March 1987

(2) Province of British Columbia: Estimates of Revenues and Expenditures

TEXT TABLE II. Total Expenditures on Scientific Activities, by Science Type and Activity, 1980-81 to 1987-88

Science and activity	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88(e)
	($'000)							
Natural sciences:								
Research and development	28,254	24,678	23,174	21,580	20,180	25,489	26,106	31,377
Related scientific activities ...	31,354	32,366	34,223	34,234	29,926	34,853	43,021	47,902
Social sciences and humanities(1):								
Research and development	764	780	762	983	1,019	763	526	904
Related scientific activities ...	27,799	26,026	28,930	20,070	16,576	19,985	23,060	26,276
Total science:								
Research and development	29,018	25,458	23,936	22,563	21,199	26,252	26,632	32,281
Related scientific activities ...	59,153	58,392	63,153	54,304	46,502	54,838	66,081	74,178
Total	**88,171**	**83,850**	**87,089**	**76,867**	**67,701**	**81,090**	**92,713**	**106,459**

(1) Estimate data for 1982-83 and 1984-85

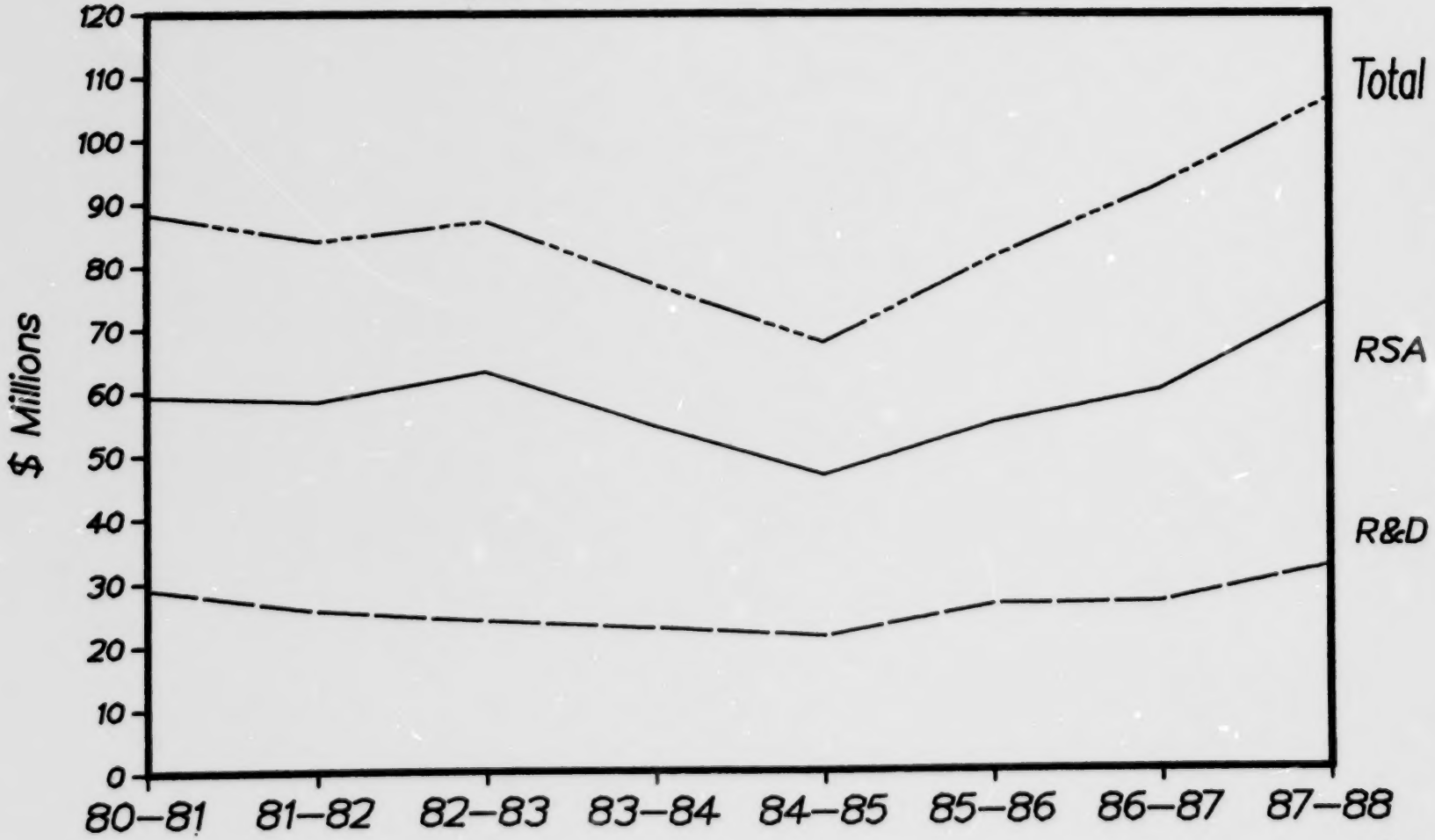
Of the total 1986-87 science expenditures, 74.6% ($69.1 million) was for activities in the natural sciences. Research and development (R&D) accounted for $26.6 million (29%) of the total. The remaining $66.1 million was for related scientific activities (RSA). Major support of research and development came from the Ministry of Forests, the Health Care Research Foundation, the Science Council, the Ministry of International Trade, Science and Investment, and the Ministry of Environment. Technical surveys, supported mainly by the Ministry of Environment and the Ministry of Forests, was the major related scientific activity.

Social science and humanities' activities accounted for 25.4% ($23.6 million) of the total 1986-87 expenditures. The ministries of Industry and Small Business Development, and Provincial Secretary and Government Services together spent $10.6 million on scientific activities in the social sciences and humanities.

Figure 1.

Government of British Columbia

B.C. Government Science Expenditures, 1980–81 To 1987–88



TEXT TABLE III. B.C. Government Expenditures on Science, by Activity and Performer, 1986-87

Activity	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council	Other	Total
	($ millions)						
Current expenditures:							
R&D	13.6	2.2	5.8	0.4	0.8	3.0	25.8
RSA	52.5	9.3	1.1	0.1	0.5	1.1	64.6
Capital expenditures	2.3	...	...	...	...	...	2.3
**Total	**68.4**	**11.6**	**6.8**	**0.5**	**1.3**	**4.1**	**92.7**

Note: In this report the science expenditures of the B.C. Research Council reflect only the yearly grant from the B.C. government. Additional information on the BCRC is available in **Science Statistics**, Catalogue No 88-001, Vol 11, No 10.

The provincial government itself performed 53% of the R&D activities and 81% of the related scientific activities in 1986-87. The remainder was performed extramurally. The industry and university sectors, the largest extramural performers, received $11.6 million and $6.8 million respectively.

TEXT TABLE IV. Total Expenditures on Science, by Sources of Funds, 1986-87

Ministry or agency	Ministerial budget	Transfers from other ministries	Transfers from federal government	Other sources	Total
	($000)				
Energy, Mines & Petroleum Resources	8,351	-	916	-	9,267
Environment	21,260	1,082	-	334	22,676
Forests	21,622	-	2,566	-	24,188
Health(1)	1,605	-	65	3,574	5,244
Industry & Small Business Development	5,788	128	205	-	6,121
International Trade, Science & Investment	2,751	-	491	-	3,242
Provincial Secretary & Government Services	5,722	148	144	726	6,740
Science Council of B.C.	-	3,800	-	-	3,800
Other	11,285	25	125	-	11,435
**Total	**78,384**	**5,183**	**4,512**	**4,634**	**92,713**

(1) Includes Health Care Research Foundation.

The ministerial budget was the source of over 85% of the funds expended on scientific activities. Other sources included transfers from the B.C. Lotteries Fund.

Approximately 3% (1,235 FTE) of the total B.C. government employees were devoted to scientific activities in 1986-87. The scientific and professional category accounted for 46% of the total. The technical category was the largest category engaged in scientific activities in the natural sciences.

TEXT TABLE V. Ministerial Personnel Engaged in Scientific Activities, by Science Type and Category, 1986-87

Science type and activity	Scientific & professional	Technical	Other	Total
	(person-years)			
Natural sciences:				
R&D	119	90	38	247
RSA	217	304	101	622
Total	336	394	139	869
Social sciences:				
R&D	3	-	-	3
RSA	235	25	103	363
Total	238	25	103	366
Total	**574**	**419**	**242**	**1,235**

TEXT TABLE VI. Objectives of B.C. Government Science Expenditures

Objective	1986-87		1987-88(e)	
	$000	%	$000	%
Energy & fuels:				
Fossil fuels	3,231	3.5	2,662	2.5
Other	2,038	2.2	1,837	1.7
Environmental issues:				
Air	3,208	3.4	3,210	3.0
Other	5,552	6.0	7,243	6.8
Health	5,558	6.0	8,331	7.8
Industrial & economic development:				
Agriculture	4,019	4.3	4,032	3.8
Forestry	27,417	29.6	27,868	26.2
Minerals	6,322	6.8	7,362	6.9
Other	5,821	6.3	7,988	7.5
Social development:				
Culture, sport & recreation	8,065	8.7	10,108	9.5
Education	4,325	4.7	4,498	4.2
Other	3,253	3.5	3,671	3.5
Wildlife	2,394	2.6	2,308	2.2
All other	11,510	12.4	15,341	14.4
Total	**92,713**	**100.0**	**106,459**	**100.0**

The objective with the greatest expenditures in 1986-87 was industrial and economic development. In the social sciences and humanities, the application with the largest expenditures was culture, sport and recreation. Overall, the prime area of science expenditure was forestry, accounting for $27.4 million, followed by other industrial and economic development activities with $16.2 million.* Similarly, forestry and other industrial and economic development activities will account for 26.2% and 18.2% respectively of anticipated science expenditures in 1987-88.

All Sciences

Government of British Columbia

TABLE 1. Total Expenditures, by Activity, 1980-81 to 1987-88

Activity	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88(e)
	($'000)							
Research & development:								
Current expenditures:								
In-house	12,140	12,826	13,029	11,827	11,017	12,615	13,491	12,899
Contracts	2,194	2,149	1,694	1,838	2,849	3,071	3,812	5,121
Grants	11,916	9,308	7,679	7,661	5,910	8,903	7,079	9,636
Research fellowships	472	859	1,070	1,042	1,218	1,251	1,395	3,115
Sub-total	26,722	25,142	23,472	22,368	20,994	25,840	25,777	30,771
Capital expenditures	2,296(1)	316	464	195	205	412	855	1,510
Related scientific activities:								
Current expenditures	57,521	57,166	62,115	53,550	45,651	53,973	64,614	72,201
Capital expenditures	1,632	1,226	1,038	754	851	865	1,467	1,977
Total	**88,171**	**83,850**	**87,089**	**76,867**	**67,701**	**81,090**	**92,713**	**106,459**

(1) Includes $2.0 million research equipment grant to B.C. universities.

Note: Refer to page 116 for further information on the reorganization of the B.C. Government.

Government of British Columbia

TABLE 2. Total Expenditures, by Ministry or Agency, 1980-81 to 1987-88

Ministry or agency	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88(e)
	($'000)							
Advanced Education & Job Training	...	...	...	...	...	...	...	7,936
Agriculture & Fisheries	...	...	...	...	...	...	...	3,687
Agriculture & Food	1,558	1,785	1,760	1,996	1,717	2,945	3,301	...
Attorney General	1,280	1,330	1,369	757	846	837	848	848
Consumer & Corporate Affairs	443	616	562	539	450	439	679	...
Economic Development	...	...	...	...	...	...	...	6,500
Education	1,767	1,907	1,897	1,160	900	2,403	2,559	2,610
Energy, Mines & Petroleum Resources	9,690	8,529	10,421	13,160	4,330	6,197	9,267	9,497
Environment	18,290	19,369	20,626	17,691	18,715	18,770	22,676	...
Environment & Parks	...	...	...	...	...	...	...	27,096
Finance	1,299	2,052	2,277	-	-	52	95	...
Finance & Corporate Affairs	...	...	...	...	...	...	...	809
Forests	20,930	18,945	19,411	18,416	17,164	21,018	24,188	...
Forests & Lands	...	...	...	...	...	...	...	25,857
Health	1,518	1,751	1,780	1,436	1,602	1,960	1,670	1,896
Health Care Research Foundation	3,556	3,033	3,372	3,532	3,611	3,578	3,574	4,200
Human Resources	...	...	...	250	316	301	595	...
Industry & Small Business Development	11,037	8,240	8,240	5,348	5,348	4,539	6,121	...
International Trade, Science & Investment	...	...	...	...	...	3,828	3,242	...
Labour	564	1,208	1,236	157	157	205	206	...
Labour & Consumer Services	...	...	...	...	...	...	...	200
Lands, Parks & Housing	374	204	546	620	766	...	372	...

TABLE 2. Total Expenditures, by Ministry or Agency, 1980-81 to 1987-88 - Concluded

Ministry or agency	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88(e)
	($'000)							
Municipal Affairs	539	274	351	389	391	510	411	567
Postsecondary Education	...	...	...	...	...	1,883	1,561	...
Provincial Secretary & Government Services	5,618	5,897	5,861	5,182	6,220	7,126	6,740	2,714
Science Council of B.C.	5,000	5,840	4,209	4,002	3,450	3,800	3,800	3,800
Social Services & Housing	...	...	...	...	...	...	...	855
Tourism	181	261	300	323	393	215	353	...
Tourism, Recreation & Culture	...	...	...	...	...	...	...	6,890
Transportation & Highways	552	952	1,086	345	425	296	309	320
Universities, Science & Communications	3,975	1,657	1,785	1,564	900	...	...	...
Women's Secretariat & Youth Council	...	...	...	...	...	188	146	177
Total	**88,171**	**83,850**	**87,089**	**76,867**	**67,701**	**81,090**	**92,713**	**106,459**

Note: Refer to page 116 for further information on the reorganization of the B.C. Government.

Government of British Columbia

TABLE 3. Total Expenditures, by Performer, 1980-81 to 1987-88

Performer	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88(e)
	($'000)							
Intramural	57,611	59,239	64,102	52,344	50,526	59,819	68,438	73,962
Industry	16,165	12,499	12,315	14,510	7,144	8,706	11,576	14,834
Universities	9,214	6,207	5,321	5,697	5,854	6,309	6,819	9,039
Hospitals & health organizations	324	173	257	330	202	2,319(1)	474	2,475(1)
B.C. Research Council(2)	1,923	2,005	1,895	1,765	1,168	1,026	1,296	1,150
Other	2,934	3,727	3,199	2,221	2,807	2,911	4,110	4,999
Total	**88,171**	**83,850**	**87,089**	**76,867**	**67,701**	**81,090**	**92,713**	**106,459**

(1) Includes a $2.0 million grant to the Biomedical Processing Centre for 1985-86 and 1987-88.
(2) Includes only annual funding by Provincial Government.

Government of British Columbia

TABLE 4. Current Expenditures on R&D, by Performer, 1980-81 to 1987-88

Performer	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88(e)
	($'000)							
Intramural	12,727	13,472	13,563	12,310	11,306	12,964	13,609	13,207
Industry	2,147	2,938	2,299	2,246	2,024	2,274	2,243	2,592
Universities	9,082	6,147	5,270	5,259	5,356	5,447	5,753	7,989
Hospitals & health organizations	279	124	203	290	162	2,260(1)	403	2,400(1)
B.C. Research Council(2)	1,874	1,494	1,227	1,147	594	515	790	625
Other	613	967	910	1,116	1,552	2,380	2,979	3,958
Total	**26,722**	**25,142**	**23,472**	**22,368**	**20,994**	**25,840**	**25,777**	**30,771**

(1) Includes a $2.0 million grant to the Biomedical Processing Centre for 1985-86 and 1987-88.
(2) Includes only annual funding by Provincial Government.

Government of British Columbia

TABLE 5. Current Expenditures on R&D, by Ministry or Agency, 1980-81 to 1987-88

Ministry or agency	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88(e)
	($'000)							
Advanced Education & Job Training	...	...	...	...	...	...	...	4,815
Agriculture & Fisheries	...	...	...	...	...	...	...	672
Agriculture & Food	682	831	577	695	345	150	486	...
Attorney General	153	162	173	125	125	54	60	80
Consumer & Corporate Affairs	-	-	-	-	-	-	-	...
Economic Development	...	...	...	...	...	...	...	100
Education	-	-	-	-	-	-	-	-
Energy, Mines & Petroleum Resources	1,479	1,370	1,290	1,393	866	953	200	280
Environment	2,160	2,170	2,214	1,789	1,682	2,037	2,032	...
Environment & Parks	...	...	...	...	...	...	...	1,718
Finance	-	-	-	-	-	-	-	...
Finance & Corporate Affairs	...	...	...	...	...	...	...	-
Forests	8,846	9,626	9,492	8,515	9,347	11,603	13,755	...
Forests & Lands	...	...	...	...	...	...	...	14,227
Health	164	137	102	153	160	410	95	100
Health Care Research Foundation	3,556	3,033	3,372	3,532	3,611	3,578	3,574	4,200
Human Resources	...	...	...	45	58	55	49	...
Industry & Small Business Development	20	-	-	25	25	20	50	...
International Trade, Science & Investment	...	...	...	...	...	2,676	1,249	...
Labour	-	-	-	-	-	-	-	...
Labour & Consumer Services	...	...	...	...	...	...	...	-
Lands, Parks & Housing	-	-	5	-	-	...	-	...

Government of British Columbia

TABLE 5. Current Expenditures on R&D, by Ministry or Agency, 1980-81 to 1987-88 - Concluded

Ministry or agency	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88(e)
	($'000)							
Municipal Affairs	-	16	22	37	38	-	-	57
Postsecondary Education	...	...	...	...	...	-	15	...
Provincial Secretary & Government Services	870	870	860	1,019	682	443	357	-
Science Council of B.C.	5,000	5,840	4,209	3,890	3,450	3,800	3,800	3,800
Social Services & Housing	...	...	...	...	...	...	...	300
Tourism	-	-	-	-	-	-	-	...
Tourism, Recreation & Culture	...	...	...	...	...	...	...	357
Transportation & Highways	48	54	48	40	55	61	55	65
Universities, Science & Communications	3,744	1,033	1,108	1,110	550	...	...	...
Women's Secretariat & Youth Council	...	...	...	...	...	-	-	-
Total	**26,722**	**25,142**	**23,472**	**22,368**	**20,994**	**25,840**	**25,777**	**30,771**

Note: Refer to page 116 for further information on the reorganization of the B.C. Government.

Government of British Columbia

TABLE 6. Ministerial Personnel Engaged in Scientific Activities, by Activity and Category, 1980-81 to 1987-88

Activity and category	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88(e)
	(person-years)							
Research & development:								
Scientific & professional	147	154	166	148	127	124	122	130
Technical	150	154	141	121	113	99	90	91
Other	34	45	42	41	41	47	38	41
Sub-total	331	353	349	309	281	270	250	262
Related scientific activities:								
Scientific & professional	419	458	430	368	324	393	452	486
Technical	567	585	522	439	348	358	329	330
Other	246	269	256	224	188	210	204	219
Sub-total	1,232	1,312	1,208	1,031	860	961	985	1,035
Total science activities:								
Scientific & professional	566	612	596	516	451	517	574	616
Technical	717	739	663	560	461	457	419	421
Other	280	314	298	265	229	257	242	260
Total	**1,563**	**1,665**	**1,557**	**1,341**	**1,141**	**1,231**	**1,235**	**1,297**

Government of British Columbia

TABLE 7. Total Expenditures, by Ministry or Agency and Sources of Funds, 1986-87

Ministry or agency	Ministerial budget	Transfers from other ministries	Transfers from federal government	From trust funds	From other sources	Total
	($'000)					
Agriculture & Food	3,301	-	-	-	-	3,301
Attorney General	748	-	100	-	-	848
Consumer & Corporate Affairs	679	-	-	-	-	679
Education	2,559	-	-	-	-	2,559
Energy, Mines & Petroleum Resources	8,351	-	916	-	-	9,267
Environment	21,260	1,082	-	-	334	22,676
Finance	95	-	-	-	-	95
Forests	21,622	-	2,566	-	-	24,188
Health	1,605	-	65	-	-	1,670
Health Care Research Foundation	-	-	-	3,500(1)	74	3,574
Human Resources	595	-	-	-	-	595
Industry & Small Business Development	5,788	128	205	-	-	6,121
International Trade, Science & Investment	2,751	-	491	-	-	3,242
Labour	206	-	-	-	-	206
Lands, Parks & Housing	372	-	-	-	-	372
Municipal Affairs	411	-	-	-	-	411
Postsecondary Education	1,561	-	-	-	-	1,561
Provincial Secretary & Government Services	5,722	148	144	114	612	6,740
Science Council of B.C.	-	3,800(2)	-	-	-	3,800
Tourism	303	25	25	-	-	353
Transportation & Highways	309	-	-	-	-	309
Women's Secretariat & Youth Council	146	-	-	-	-	146
Total	**78,384**	**5,183**	**4,512**	**3,614**	**1,020**	**92,713**

(1) Transferred from the B.C. Lotteries Fund.

(2) Transferred from the Ministry of International Trade, Science and Investment.

Government of British Columbia

TABLE 8. Total Expenditures, by Activity and Performer, 1986-87

Activity	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council(1)	Other	Total
	($'000)						
Research & development:							
Current expenditures:							
In-house	13,491	...	...	...	...	...	13,491
Contracts	118	218	615	-	265	2,596	3,812
Grants	...	1,825	3,983	403	500	368	7,079
Research fellowships	-	200	1,155	-	25	15	1,395
Sub-total	13,609	2,243	5,753	403	790	2,979	25,777
Capital expenditures	855	...	...	...	...	...	855
Related scientific activities:							
Current expenditures	52,507	9,333	1,066	71	506	1,131	64,614
Capital expenditures	1,467	...	...	...	...	...	1,467
Total	**68,438**	**11,576**	**6,819**	**474**	**1,296**	**4,110**	**92,713**

(1) Includes only annual funding by Provincial Government.

Government of British Columbia

TABLE 9. Total Expenditures, by Ministry or Agency and Performer, 1986-87

Ministry or agency	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council(1)	Other	Total
	($'000)						
Agriculture & Food	2,797	84	150	-	250	20	3,301
Attorney General	359	130	-	-	-	359	848
Consumer & Corporate Affairs	679	-	-	-	-	-	679
Education	1,126	1,433	-	-	-	-	2,559
Energy, Mines & Petroleum Resources	8,661	490	-	-	-	116	9,267
Environment	17,427	4,977	72	-	12	188	22,676
Finance	80	15	-	-	-	-	95
Forests	20,393	973	499	-	3	2,320	24,188
Health	1,281	-	290	71	-	28	1,670
Health Care Research Foundation	169	-	3,002	403	-	-	3,574
Human Resources	587	-	-	-	-	8	595
Industry & Small Business Development	5,011	848	73	-	-	189	6,121
International Trade, Science & Investment	790	470	982	-	1,000	-	3,242
Labour	200	-	-	-	6	-	206
Lands, Parks & Housing	372	-	-	-	-	-	372
Municipal Affairs	404	7	-	-	-	-	411
Postsecondary Education	1,296	245	-	-	-	20	1,561
Provincial Secretary & Government Services	6,131	-	54	-	-	555	6,740
Science Council of B.C.	300	1,496	1,697	-	25	282	3,800
Tourism	120	233	-	-	-	-	353
Transportation & Highways	180	129	-	-	-	-	309
Women's Secretariat & Youth Council	75	46	-	-	-	25	146
Total	**68,438**	**11,576**	**6,819**	**474**	**1,296**	**4,110**	**92,713**

(1) Includes only annual funding by Provincial Government.

Government of British Columbia

TABLE 10. Total Expenditures, by Ministry or Agency and Activity, 1986-87

Ministry or agency	Research & development			Related scientific activities			Total
	Current	Capital	Total	Current	Capital	Total	
	($000)						
Agriculture & Food	486	-	486	2,815	-	2,815	3,301
Attorney General	60	-	60	788	-	788	848
Consumer & Corporate Affairs	-	-	-	679	-	679	679
Education	-	-	-	2,559	-	2,559	2,559
Energy, Mines & Petroleum Resources	200	-	200	8,438	629	9,067	9,267
Environment	2,032	37	2,069	20,133	474	20,607	22,676
Finance	-	-	-	95	-	95	95
Forests	13,755	808	14,563	9,573	52	9,625	24,188
Health	95	-	95	1,545	30	1,575	1,670
Health Care Research Foundation	3,574	-	3,574	-	-	-	3,574
Human Resources	49	-	49	546	-	546	595
Industry & Small Business Development	50	10	60	5,841	220	6,061	6,121
International Trade, Science & Investment	1,249	-	1,249	1,993	-	1,993	3,242
Labour	-	-	-	206	-	206	206
Lands, Parks & Housing	-	-	-	372	-	372	372
Municipal Affairs	-	-	-	411	-	411	411
Postsecondary Education	15	-	15	1,546	-	1,546	1,561
Provincial Secretary & Government Services	357	-	357	6,321	62	6,383	6,740
Science Council of B.C.	3,800	-	3,800	-	-	-	3,800
Tourism	-	-	-	353	-	353	353
Transportation & Highways	55	-	55	254	-	254	309
Women's Secretariat & Youth Council	-	-	-	146	-	146	146
Total	**25,777**	**855**	**26,632**	**64,614**	**1,467**	**66,081**	**92,713**

Government of British Columbia

TABLE 11. Current Expenditures on R&D, by Ministry or Agency and Performer, 1986-87

Ministry or agency	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council(1)	Other	Total
	($'000)						
Agriculture & Food	2	84	150	-	250	-	486
Attorney General	40	20	-	-	-	-	60
Consumer & Corporate Affairs	-	-	-	-	-	-	-
Education	-	-	-	-	-	-	-
Energy, Mines & Petroleum Resources	200	-	-	-	-	-	200
Environment	1,701	163	72	-	12	84	2,032
Finance	-	-	-	-	-	-	-
Forests	10,943	-	499	-	3	2,310	13,755
Health	95	-	-	-	-	-	95
Health Care Research Foundation	169	-	3,002	403	-	-	3,574
Human Resources	49	-	-	-	-	-	49
Industry and Small Business Development	50	-	-	-	-	-	50
International Trade, Science & Investment	-	470	279	-	500	-	1,249
Labour	-	-	-	-	-	-	-
Lands, Parks & Housing	-	-	-	-	-	-	-
Municipal Affairs	-	-	-	-	-	-	-
Postsecondary Education	-	-	-	-	-	15	15
Provincial Secretary & Government Services	15	-	54	-	-	288	357
Science Council of B.C.	300	1,496	1,697	-	25	282	3,800
Tourism	-	-	-	-	-	-	-
Transportation & Highways	45	10	-	-	-	-	55
Women's Secretariat & Youth Council	-	-	-	-	-	-	-
Total	**13,609**	**2,243**	**5,753**	**403**	**790**	**2,979**	**25,777**

(1) Includes only annual funding by Provincial Government.

Government of British Columbia

TABLE 12. Detail of Intramural Expenditures, by Ministry or Agency, 1986-87

Ministry or agency	Current expenditures		Capital expenditures	Total
	Personnel costs	Other costs		
	($'000)			
Agriculture & Food	1,713	1,084	-	2,797
Attorney General	359	-	-	359
Consumer & Corporate Affairs	584	95	-	679
Education	901	225	-	1,126
Energy, Mines & Petroleum Resources	4,597	3,435	629	8,661
Environment	10,396	6,520	511	17,427
Finance	60	20	-	80
Forests	12,961	6,572	860	20,393
Health	548	703	30	1,281
Health Care Research Foundation	-	169	-	169
Human Resources	360	227	-	587
Industry & Small Business Development	3,461	1,320	230	5,011
International Trade, Science & Investment	563	227	-	790
Labour	194	6	-	200
Lands, Parks & Housing	155	217	-	372
Municipal Affairs	323	81	-	404
Postsecondary Education	1,110	186	-	1,296
Provincial Secretary & Government Services	3,931	2,138	62	6,131
Science Council of B.C.	210	90	-	300
Tourism	100	20	-	120
Transportation & Highways	180	-	-	180
Women's Secretariat & Youth Council	75	-	-	75
Total	**42,781**	**23,335**	**2,322**	**68,438**

Government of British Columbia

TABLE 13. Ministerial Personnel Engaged in Scientific Activities, by Ministry or Agency, Activity and Category, 1986-87

Ministry or agency	Research & development				Related scientific activities			
	Scientific & professional	Technical	Other	Total	Scientific & professional	Technical	Other	Total
	(person-years)							
Agriculture & Food	-	-	-	-	36	11	7	54
Attorney General	1	-	-	1	5	-	2	7
Consumer & Corporate Affairs	-	-	-	-	14	-	5	19
Education	-	-	-	-	20	-	5	25
Energy, Mines & Petroleum Resources	5	-	-	5	66	12	23	101
Environment	26	11	3	40	70	162	42	274
Finance	-	-	-	-	2	-	-	2
Forests	81	78	32	191	55	97	30	182
Health	2	-	-	2	12	1	5	18
Health Care Research Foundation(1)	-	-	-	-	-	-	-	-
Human Resources	1	-	-	1	8	-	3	11
Industry & Small Business Development	1	-	-	1	62	5	28	95
International Trade, Science & Investment	-	-	-	-	9	-	3	12
Labour	-	-	-	-	4	-	3	7
Lands, Parks & Housing	-	-	-	-	4	2	-	6
Municipal Affairs	-	-	-	-	6	-	1	7
Postsecondary Education	-	-	-	-	21	-	14	35
Provincial Secretary & Government Services	-	-	-	-	51	37	32	120
Science Council of B.C.	4	-	3	7	-	-	-	-
Tourism	-	-	-	-	3	1	-	4
Transportation & Highways	1	1	-	2	2	1	-	3
Women's Secretariat & Youth Council	-	-	-	-	2	-	1	3
Total	**122**	**90**	**38**	**250**	**452**	**329**	**204**	**985**

(1) Administrative personnel included with Science Council of B.C.

Government of British Columbia

TABLE 14. Objectives of Expenditures, by Ministry or Agency, 1986-87

Ministry or agency	Advancement of science	Communications	Energy & fuels				
			Conservation	Fossil fuels	Hydro electric energy	Renewable resources	Other
	($'000)						
Agriculture & Food	-	-	-	-	-	-	-
Attorney General	-	-	-	-	-	-	-
Consumer & Corporate Affairs	-	-	-	-	-	-	-
Education	-	-	-	-	-	-	-
Energy, Mines & Petroleum Resources	-	-	-	2,849	960	-	-
Environment	240	-	-	-	-	-	-
Finance	-	-	-	-	-	-	-
Forests	-	-	-	-	-	-	-
Health	-	-	-	-	-	-	-
Health Care Research Foundation	-	-	-	-	-	-	-
Human Resources	-	-	-	-	-	-	-
Industry & Small Business Development	60	-	-	260	65	-	-
International Trade, Science & Investment	483	586	-	-	-	-	1,000
Labour	-	-	-	-	-	-	-
Lands, Parks & Housing	-	-	-	-	-	-	-
Municipal Affairs	-	-	-	-	-	-	-
Postsecondary Education	-	-	-	-	-	-	-
Provincial Secretary & Government Services	5	-	-	-	-	-	-
Science Council of B.C.	-	714	-	122	-	13	-
Tourism	-	-	-	-	-	-	-
Transportation & Highways	-	-	-	-	-	-	-
Women's Secretariat & Youth Council	-	-	-	-	-	-	-
Total	**788**	**1,300**	**-**	**3,231**	**1,025**	**13**	**1,000**

Government of British Columbia

TABLE 14. Objectives of Expenditures, by Ministry or Agency, 1986-87 - Continued

Ministry or agency	Environmental issues				Health
	Air	Land	Water	Other	
	($'000)				
Agriculture & Food	-	-	-	-	-
Attorney General	-	-	-	-	-
Consumer & Corporate Affairs	-	-	-	-	-
Education	-	-	-	-	-
Energy, Mines & Petroleum Resources	-	-	-	-	-
Environment	3,208	770	2,056	2,496	104
Finance	-	-	-	-	-
Forests	-	-	-	230	-
Health	-	-	-	-	1,670
Health Care Research Foundation	-	-	-	-	3,574
Human Resources	-	-	-	-	-
Industry & Small Business Development	-	-	-	-	195
International Trade, Science & Investment	-	-	-	-	-
Labour	-	-	-	-	-
Lands, Parks & Housing	-	-	-	-	-
Municipal Affairs	-	-	-	-	-
Postsecondary Education	-	-	-	-	15
Provincial Secretary & Government Services	-	-	-	-	-
Science Council of B.C.	-	-	-	-	-
Tourism	-	-	-	-	-
Transportation & Highways	-	-	-	-	-
Women's Secretariat & Youth Council	-	-	-	-	-
Total	**3,208**	**770**	**2,056**	**2,726**	**5,558**

Government of British Columbia

TABLE 14. Objectives of Expenditures, by Ministry or Agency, 1986-87 - Continued

Ministry or agency	Industrial & economic development					
	Agriculture	Fisheries	Forestry	Manufacturing	Minerals	Other
	($'000)					
Agriculture & Food	3,301	-	-	-	-	-
Attorney General	-	-	-	-	-	-
Consumer & Corporate Affairs	-	-	-	-	-	-
Education	-	-	-	-	-	-
Energy, Mines & Petroleum Resources	-	-	-	-	5,458	-
Environment	186	1,114	1,210	-	-	-
Finance	-	-	-	-	-	95
Forests	-	-	23,958	-	-	-
Health	-	-	-	-	-	-
Health Care Research Foundation	-	-	-	-	-	-
Human Resources	-	-	-	-	-	-
Industry & Small Business Development	163	162	1,135	2,075	598	-
International Trade, Science & Investment	-	-	-	470	-	703
Labour	-	-	-	-	-	-
Lands, Parks & Housing	-	-	-	-	-	-
Municipal Affairs	-	-	-	-	-	-
Postsecondary Education	-	-	-	-	-	-
Provincial Secretary & Government Services	-	-	-	-	-	-
Science Council of B.C.	369	476	1,114	281	266	445
Tourism	-	-	-	-	-	-
Transportation & Highways	-	-	-	-	-	-
Women's Secretariat & Youth Council	-	-	-	-	-	-
Total	**4,019**	**1,752**	**27,417**	**2,826**	**6,322**	**1,243**

Government of British Columbia

TABLE 14. Objectives of Expenditures, by Ministry or Agency, 1986-87 - Concluded

Ministry or agency	Social development & related areas					Transportation	Wildlife	Other	Total
	Culture, sport & recreation	Education	Human resources	Urban & regional studies	Other				
	($'000)								
Agriculture & Food	-	-	-	-	-	-	-	-	3,301
Attorney General	-	-	-	-	848	-	-	-	848
Consumer & Corporate Affairs	-	-	-	-	679	-	-	-	679
Education	-	2,559	-	-	-	-	-	-	2,559
Energy, Mines & Petroleum Resources	-	-	-	-	-	-	-	-	9,267
Environment	30	-	-	-	-	-	2,329	8,933	22,676
Finance	-	-	-	-	-	-	-	-	95
Forests	-	-	-	-	-	-	-	-	24,188
Health	-	-	-	-	-	-	-	-	1,670
Health Care Research Foundation	-	-	-	-	-	-	-	-	3,574
Human Resources	-	-	487	108	-	-	-	-	595
Industry & Small Business Development	580	220	90	273	-	180	65	-	6,121
International Trade, Science & Investment	-	-	-	-	-	-	-	-	3,242
Labour	-	-	206	-	-	-	-	-	206
Lands, Parks & Housing	372	-	-	-	-	-	-	-	372
Municipal Affairs	-	-	-	411	-	-	-	-	411
Postsecondary Education	-	1,546	-	-	-	-	-	-	1,561
Provincial Secretary & Government Services	6,730	-	-	5	-	-	-	-	6,740
Science Council of B.C.	-	-	-	-	-	-	-	-	3,800
Tourism	353	-	-	-	-	-	-	-	353
Transportation & Highways	-	-	-	-	-	309	-	-	309
Women's Secretariat & Youth Council	-	-	146	-	-	-	-	-	146
Total	**8,065**	**4,325**	**929**	**797**	**1,527**	**489**	**2,394**	**8,933**	**92,713**

Government of British Columbia

TABLE 15. Objectives of Science Expenditures, by Activity, 1986-87

Objective	Intramural		Extramural		Total
	Research & development	Related scientific activities	Research & development	Related scientific activities	
	($'000)				
Advancement of science	60	449	279	-	788
Communications	56	586	658	-	1,300
Energy & fuels:					
Fossil fuels	10	2,845	112	264	3,231
Hydro electric energy	-	910	-	115	1,025
Renewable resources	1	-	12	-	13
Other	-	-	500	500	1,000
Environmental issues:					
Air	260	2,881	57	10	3,208
Land	8	758	4	-	770
Water	148	1,905	-	3	2,056
Other	228	2,164	300	34	2,726
Health	264	1,440	3,420	434	5,558
Industrial & economic development:					
Agriculture	53	3,084	824	58	4,019
Fisheries	607	469	556	120	1,752
Forestry	11,831	9,640	3,650	2,296	27,417
Manufacturing	22	1,750	729	325	2,826
Minerals	221	5,457	245	399	6,322
Other	35	80	410	718	1,243
Social development:					
Culture, sport & recreation	15	7,078	342	630	8,065
Education	-	2,597	-	1,728	4,325
Human resources	49	788	-	92	929
Urban & regional studies	-	709	-	88	797
Other	40	998	20	469	1,527
Transportation	45	285	10	149	489
Wildlife	511	1,828	40	15	2,394
Other	-	5,273	-	3,660	8,933
Total	**14,464**	**53,974**	**12,168**	**12,107**	**92,713**

Government of British Columbia

TABLE 16. Total Expenditures, by Activity and Performer, 1987-88(e)

Activity	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council(1)	Other	Total
	($'000)						
Research & development:							
Current expenditures:							
In-house	12,899	...	...	...	...	...	12,899
Contracts	308	442	714	-	-	3,657	5,121
Grants	...	1,950	4,375	2,400	625	286	9,636
Research fellowships	-	200	2,900	-	-	15	3,115
Sub-total	13,207	2,592	7,989	2,400	625	3,958	30,771
Capital expenditures	1,510	...	...	...	...	...	1,510
Related scientific activities:							
Current expenditures	57,268	12,242	1,050	75	525	1,041	72,201
Capital expenditures	1,977	...	...	...	...	...	1,977
Total	**73,962**	**14,834**	**9,039**	**2,475**	**1,150**	**4,999**	**106,459**

(1) Includes only annual funding by Provincial Government.

Government of British Columbia

TABLE 17. Total Expenditures, by Ministry or Agency and Performer, 1987-88(e)

Ministry or agency	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council(1)	Other	Total
	($'000)						
Advanced Education & Job Training	1,621	780	2,520	2,000	1,000	15	7,936
Agriculture & Fisheries	3,066	363	150	-	-	108	3,687
Attorney General	443	-	-	-	-	405	848
Economic Development	5,450	750	50	-	50	200	6,500
Education	1,148	1,462	-	-	-	-	2,610
Energy, Mines & Petroleum Resources	8,769	653	-	-	-	75	9,497
Environment & Parks	20,560	6,451	57	-	-	28	27,096
Finance & Corporate Affairs	789	20	-	-	-	-	809
Forests & Lands	20,024	1,850	603	-	-	3,380	25,857
Health	1,488	-	305	75	-	28	1,896
Health Care Research Foundation	200	-	3,600	400	-	-	4,200
Labour & Consumer Services	200	-	-	-	-	-	200
Municipal Affairs	422	145	-	-	-	-	567
Provincial Secretary & Government Services	2,714	-	-	-	-	-	2,714
Science Council of B.C.	300	1,500	1,700	-	100	200	3,800
Social Services & Housing	850	-	-	-	-	5	855
Tourism, Recreation & Culture	5,661	620	54	-	-	555	6,890
Transportation & Highways	180	140	-	-	-	-	320
Women's Secretariat & Youth Council	77	100	-	-	-	-	177
Total	**73,962**	**14,834**	**9,039**	**2,475**	**1,150**	**4,999**	**106,459**

(1) Includes only annual funding by Provincial Government.

Government of British Columbia

TABLE 18. Total Expenditures, by Ministry or Agency and Activity, 1987-88(e)

Ministry or agency	Research & development			Related scientific activities			Total
	Current	Capital	Total	Current	Capital	Total	
	($000)						
Advanced Education & Job Training	4,815	-	4,815	3,121	-	3,121	7,936
Agriculture & Fisheries	672	20	692	2,995	-	2,995	3,687
Attorney General	80	-	80	768	-	768	848
Economic Development	100	10	110	6,150	240	6,390	6,500
Education	-	-	-	2,610	-	2,610	2,610
Energy, Mines & Petroleum Resources	280	-	280	8,502	715	9,217	9,497
Environment & Parks	1,718	25	1,743	24,655	698	25,353	27,096
Finance & Corporate Affairs	-	-	-	809	-	809	809
Forests & Lands	14,227	1,455	15,682	9,905	270	10,175	25,857
Health	100	-	100	1,796	-	1,796	1,896
Health Care Research Foundation	4,200	-	4,200	-	-	-	4,200
Labour & Consumer Services	-	-	-	200	-	200	200
Municipal Affairs	57	-	57	510	-	510	567
Provincial Secretary & Government Services	-	-	-	2,714	-	2,714	2,714
Science Council of B.C.	3,800	-	3,800	-	-	-	3,800
Social Services & Housing	300	-	300	555	-	555	855
Tourism, Recreation & Culture	357	-	357	6,479	54	6,533	6,890
Transportation & Highways	65	-	65	255	-	255	320
Women's Secretariat & Youth Council	-	-	-	177	-	177	177
Total	**30,771**	**1,510**	**32,281**	**72,201**	**1,977**	**74,178**	**106,459**

Government of British Columbia

TABLE 19. Current Expenditures on R&D, by Ministry or Agency and Performer, 1987-88(e)

Ministry or agency	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council(1)	Other	Total
	($'000)						
Advanced Education & Job Training	-	500	1,800	2,000	500	15	4,815
Agriculture & Fisheries	139	343	150	-	-	40	672
Attorney General	60	-	-	-	-	20	80
Economic Development	50	-	25	-	25	-	100
Education	-	-	-	-	-	-	-
Energy, Mines & Petroleum Resources	230	50	-	-	-	-	280
Environment & Parks	1,582	64	57	-	-	15	1,718
Finance & Corporate Affairs	-	-	-	-	-	-	-
Forests & Lands	10,144	100	603	-	-	3,380	14,227
Health	100	-	-	-	-	-	100
Health Care Research Foundation	200	-	3,600	400	-	-	4,200
Labour & Consumer Services	-	-	-	-	-	-	-
Municipal Affairs	42	15	-	-	-	-	57
Provincial Secretary & Government Services	-	-	-	-	-	-	-
Science Council of B.C.	300	1,500	1,700	-	100	200	3,800
Social Services & Housing	300	-	-	-	-	-	300
Tourism, Recreation & Culture	15	-	54	-	-	288	357
Transportation & Highways	45	20	-	-	-	-	65
Women's Secretariat & Youth Council	-	-	-	-	-	-	-
Total	**13,207**	**2,592**	**7,989**	**2,400**	**625**	**3,958**	**30,771**

(1) Includes only annual funding by Provincial Government.

Government of British Columbia

TABLE 20. Ministerial Personnel Engaged in Scientific Activities, by Ministry or Agency, Activity and Category, 1987-88(e)

Ministry or agency	Research & development				Related scientific activities			
	Scientific & professional	Technical	Other	Total	Scientific & professional	Technical	Other	Total
	(person-years)							
Advanced Education & Job Training ...	-	-	-	-	26	-	15	41
Agriculture & Fisheries	3	1	-	4	37	12	7	56
Attorney General	1	-	-	1	6	-	2	8
Economic Development	1	-	-	1	69	5	30	104
Education	-	-	-	-	20	-	5	25
Energy, Mines & Petroleum Resources .	5	-	-	5	71	12	23	106
Environment & Parks	24	13	3	40	73	165	43	281
Finance & Corporate Affairs	-	-	-	-	16	-	5	21
Forests & Lands	85	76	34	195	52	98	30	180
Health	2	-	-	2	17	1	5	23
Health Care Research Foundation(1) ..	-	-	-	-	-	-	-	-
Labour & Consumer Services	-	-	-	-	3	-	3	6
Municipal Affairs	1	-	-	1	6	-	1	7
Provincial Secretary & Government Services	-	-	-	-	22	7	19	48
Science Council of B.C.	4	-	4	8	-	-	-	-
Social Services & Housing	3	-	-	3	8	-	3	11
Tourism, Recreation & Culture	-	-	-	-	56	29	27	112
Transportation & Highways	1	1	-	2	2	1	-	3
Women's Secretariat & Youth Council .	-	-	-	-	2	-	1	3
Total	**130**	**91**	**41**	**262**	**486**	**330**	**219**	**1,035**

(1) Administrative personnel included with Science Council of B.C.

Government of British Columbia

TABLE 21. Objectives of Expenditures, by Ministry or Agency, 1987-88(e)

Ministry or agency	Advancement of science	Communications	Energy & fuels				
			Conservation	Fossil fuels	Hydro electric energy	Renewable resources	Other
	($'000)						
Advanced Education & Job Training	2,008	-	-	-	-	-	1,000
Agriculture & Fisheries	-	-	-	-	-	-	-
Attorney General	-	-	-	-	-	-	-
Education	-	-	-	-	-	-	-
Energy, Mines & Petroleum Resources	-	-	-	2,348	713	-	-
Environment & Parks	240	-	-	-	-	-	-
Finance & Corporate Affairs	-	-	-	-	-	-	-
Forests & Lands	-	-	-	-	-	-	-
Health	-	-	-	-	-	-	-
Health Care Research Foundation	-	-	-	-	-	-	-
Economic Development	110	-	-	260	60	10	-
Labour & Consumer Services	-	-	-	-	-	-	-
Municipal Affairs	-	-	-	-	-	-	-
Provincial Secretary & Government Services	-	480	-	-	-	-	-
Science Council of B.C.	-	761	27	54	-	27	-
Social Services & Housing	-	-	-	-	-	-	-
Tourism, Recreation & Culture	5	-	-	-	-	-	-
Transportation & Highways	-	-	-	-	-	-	-
Women's Secretariat & Youth Council	-	-	-	-	-	-	-
Total	**2,363**	**1,241**	**27**	**2,662**	**773**	**37**	**1,000**

Government of British Columbia

TABLE 21. Objectives of Expenditures, by Ministry or Agency, 1987-88(e) - Continued

Ministry or agency	Environmental Issues				Health
	Air	Land	Water	Other	
	($'000)				
Advanced Education & Job Training	-	-	-	-	2,015
Agriculture & Fisheries	-	-	-	-	-
Attorney General	-	-	-	-	-
Economic Development	-	-	-	-	120
Education	-	-	-	-	-
Energy, Mines & Petroleum Resources	-	-	-	-	-
Environment & Parks	3,210	1,020	3,602	2,405	100
Finance & Corporate Affairs	-	-	-	-	-
Forests & Lands	-	-	-	216	-
Health	-	-	-	-	1,896
Health Care Research Foundation	-	-	-	-	4,200
Labour & Consumer Services	-	-	-	-	-
Municipal Affairs	-	-	-	-	-
Provincial Secretary & Government Services	-	-	-	-	-
Science Council of B.C.	-	-	-	-	-
Social Services & Housing	-	-	-	-	-
Tourism, Recreation & Culture	-	-	-	-	-
Transportation & Highways	-	-	-	-	-
Women's Secretariat & Youth Council	-	-	-	-	-
Total	**3,210**	**1,020**	**3,602**	**2,621**	**8,331**

Government of British Columbia

TABLE 21. Objectives of Expenditures, by Ministry or Agency, 1987-88(e) - Continued

Ministry or agency	Industrial & economic development					
	Agriculture	Fisheries	Forestry	Manufacturing	Minerals	Other
	($'000)					
Advanced Education & Job Training ...	-	-	-	500	-	720
Agriculture & Fisheries	3,298	389	-	-	-	-
Attorney General	-	-	-	-	-	-
Economic Development	150	400	1,200	2,400	600	-
Education	-	-	-	-	-	-
Energy, Mines & Petroleum Resources .	-	-	-	-	6,436	-
Environment & Parks	150	2,255	50	-	-	-
Finance & Corporate Affairs	-	-	-	-	-	130
Forests & Lands	-	-	25,641	-	-	-
Health	-	-	-	-	-	-
Health Care Research Foundation	-	-	-	-	-	-
Labour & Consumer Services	-	-	-	-	-	-
Municipal Affairs	-	-	-	-	-	-
Provincial Secretary & Government Services	-	-	-	-	-	-
Science Council of B.C.	434	434	977	434	326	326
Social Services & Housing	-	-	-	-	-	-
Tourism, Recreation & Culture	-	-	-	-	-	-
Transportation & Highways	-	-	-	-	-	-
Women's Secretariat & Youth Council .	-	-	-	-	-	-
**Total	**4,032**	**3,478**	**27,868**	**3,334**	**7,362**	**1,176**

Government of British Columbia

TABLE 21. Objectives of Expenditures, by Ministry or Agency, 1987-88(e)

Ministry or agency	Social development & related areas					Transportation	Wildlife	Other	Total
	Culture, sport & recreation	Education	Human resources	Urban & regional studies	Other				
	($'000)								
Advanced Education & Job Training	-	1,693	-	-	-	-	-	-	7,936
Agriculture & Fisheries	-	-	-	-	-	-	-	-	3,687
Attorney General	-	-	-	-	848	-	-	-	848
Economic Development	475	195	120	220	-	180	-	-	6,500
Education	-	2,610	-	-	-	-	-	-	2,610
Energy, Mines & Petroleum Resources ..	-	-	-	-	-	-	-	-	9,497
Environment & Parks	519	-	-	-	-	-	2,308	11,237	27,096
Finance & Corporate Affairs	-	-	-	-	679	-	-	-	809
Forests & Lands	-	-	-	-	-	-	-	-	25,857
Health	-	-	-	-	-	-	-	-	1,896
Health Care Research Foundation	-	-	-	-	-	-	-	-	4,200
Labour & Consumer Services	-	-	200	-	-	-	-	-	200
Municipal Affairs	-	-	-	567	-	-	-	-	567
Provincial Secretary & Government Services	2,234	-	-	-	-	-	-	-	2,714
Science Council of B.C.	-	-	-	-	-	-	-	-	3,800
Social Services & Housing	-	-	700	155	-	-	-	-	855
Tourism, Recreation & Culture	6,880	-	-	5	-	-	-	-	6,890
Transportation & Highways	-	-	-	-	-	320	-	-	320
Women's Secretariat & Youth Council ..	-	-	177	-	-	-	-	-	177
Total	**10,108**	**4,498**	**1,197**	**947**	**1,527**	**500**	**2,308**	**11,237**	**106,459**

TABLE 22. Objectives of Expenditures, by Activity, 1987-88(e)

Objective	Intramural		Extramural		Total
	Research & development	Related scientific activities	Research & development	Related scientific activities	
	($'000)				
Advancement of science	60	448	1,855	-	2,363
Communications	61	480	700	-	1,241
Energy & fuels:					
Conservation	2	-	25	-	27
Fossil fuels	4	2,368	50	240	2,662
Hydro electric energy	-	670	-	103	773
Renewable resources	2	10	25	-	37
Other	-	-	500	500	1,000
Environmental issues:					
Air	260	2,883	57	10	3,210
Land	8	1,008	4	-	1,020
Water	198	3,401	-	3	3,602
Other	199	2,214	200	8	2,621
Health	300	1,608	6,015	408	8,331
Industrial & economic development:					
Agriculture	36	3,070	883	43	4,032
Fisheries	641	667	500	1,670	3,478
Forestry	11,668	9,475	4,783	1,942	27,868
Manufacturing	34	2,000	900	400	3,334
Minerals	256	6,261	350	495	7,362
Other	26	110	300	740	1,176
Social development:					
Culture, sport & recreation	15	8,849	332	912	10,108
Education	-	2,736	-	1,762	4,498
Human resources	250	827	-	120	1,197
Urban & regional studies	92	680	20	155	947
Other	60	1,062	20	385	1,527
Transportation	45	285	20	150	500
Wildlife	500	1,783	25	-	2,308
Other	-	6,350	-	4,887	11,237
Total	**14,717**	**59,245**	**17,564**	**14,933**	**106,459**

Natural Sciences

Government of British Columbia

TABLE 23. Total Expenditures in the Natural Sciences, by Activity, 1980-81 to 1987-88

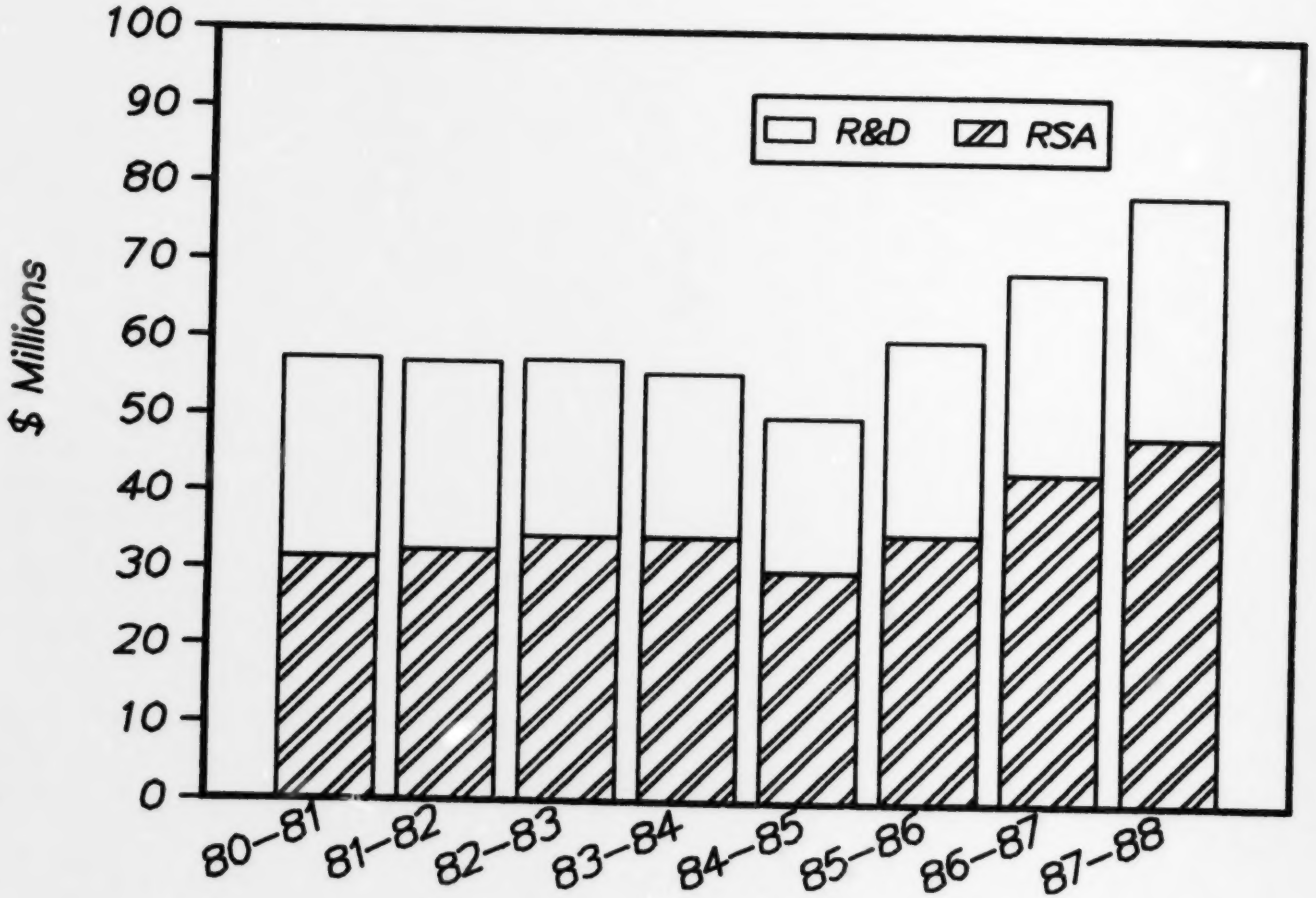
Activity	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88(e)
	($'000)							
Research & development:								
Current Expenditures:								
In-house	11,427	12,096	12,297	11,197	10,334	12,207	13,337	12,632
Contracts	2,184	2,139	1,684	1,557	2,594	2,806	3,536	4,630
Grants	11,895	9,288	7,679	7,591	5,830	8,813	6,993	9,500
Research fellowships	472	859	1,070	1,042	1,218	1,251	1,395	3,115
Sub-total	25,978	24,382	22,730	21,387	19,976	25,077	25,261	29,877
Capital Expenditures	2,276(1)	296	444	193	204	412	845	1,500
Related scientific activities:								
Current Expenditures:								
Education support	243	233	166	172	40	55	17	20
Technical surveys	22,435	23,464	25,161	24,089	23,406	25,609	33,313	37,960
Information services	2,404	2,685	3,441	3,058	2,267	2,327	2,673	2,611
Special services & studies	4,413	4,434	4,181	6,228	2,279	4,322	3,818	4,627
Museum services	1,093	1,015	891	517	1,643	2,205	2,045	1,001
Sub-total	30,588	31,831	33,840	34,064	29,635	34,518	41,866	46,219
Capital expenditures	766	535	383	170	291	335	1,155	1,683
Total	**59,608**	**57,044**	**57,397**	**55,814**	**50,106**	**60,342**	**69,127**	**79,279**

(1) Includes $2.0 million research equipment grant to B.C. universities.

Chart 1.

Government of British Columbia

Expenditures in the Natural Sciences, by Activity, 1980–81 to 1987–88



Government of British Columbia

TABLE 24. Total Expenditures in the Natural Sciences, by Ministry or Agency, 1980-81 to 1987-88

Ministry or agency	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88(e)
	($'000)							
Advanced Education & Job Training	...	...	...	...	...	...	...	6,078
Agriculture & Fisheries	...	...	...	...	...	...	...	3,687
Agriculture & Food	1,558	1,785	1,760	1,996	1,717	2,945	3,301	...
Energy, Mines & Petroleum Resources ...	4,493	4,845	4,637	7,214	2,355	3,830	6,358	7,336
Environment	18,280	19,304	20,456	17,546	18,577	18,680	22,591	...
Environment & Parks	...	...	...	...	...	...	...	26,786
Forests	20,839	18,712	19,269	18,416	17,164	21,018	24,188	...
Forests & Lands	...	...	...	...	...	...	...	25,857
Health	43	65	25	146	85	245	100	135
Health Care Research Foundation	3,556	3,033	3,372	3,532	3,611	3,578	3,574	4,200
International Trade, Science & Investment	...	...	...	...	...	3,705	2,494	...
Lands, Parks & Housing	104	12	321	298	362	...	222	...
Postsecondary Education	...	...	...	...	...	-	15	...
Provincial Secretary & Government Services	1,640	1,640	1,390	950	1,710	2,366	2,294	-
Science Council of B.C.	5,000	5,840	4,209	4,002	3,450	3,800	3,800	3,800
Tourism, Recreation & Culture	...	...	...	...	...	...	...	1,200
Transportation & Highways	120	151	173	150	175	175	190	200
Universities, Science & Communications	3,975	1,657	1,785	1,564	900	...	...	...
**Total	**59,608**	**57,044**	**57,397**	**55,814**	**50,106**	**60,342**	**69,127**	**79,279**

Note: Refer to page 116 for further information on the reorganization of the B.C. Government.

Government of British Columbia

TABLE 25. Total Expenditures in the Natural Sciences, by Performer, 1980-81 to 1987-88

Performer	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88(e)
	($'000)							
Intramural	40,870	40,678	43,187	38,605	37,069	44,066	49,895	52,289
Industry	6,149	6,695	5,855	9,057	5,048	4,814	8,260	11,054
Universities	9,129	6,138	5,270	5,204	5,306	5,947	6,402	8,630
Hospitals & health organizations	279	124	203	290	162	2,260(1)	403	2,400(1)
B.C. Research Council (2)	1,874	1,914	1,789	1,586	944	1,015	1,290	1,100
Other	1,307	1,495	1,093	1,072	1,577	2,240	2,877	3,806
**Total	**59,608**	**57,044**	**57,397**	**55,814**	**50,106**	**60,342**	**69,127**	**79,279**

(1) Includes a $2.0 million grant to the Biomedical Processing Centre for 1985-86 and 1987-88.
(2) Includes only annual funding by Provincial Government.

Government of British Columbia

TABLE 26. Current Expenditures on R&D in the Natural Sciences, by Performer, 1980-81 to 1987-88

Performer	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88(e)
	($'000)							
Intramural	12,004	12,732	12,821	11,670	10,613	12,556	13,455	12,740
Industry	2,147	2,938	2,299	2,238	2,016	2,254	2,223	2,577
Universities	9,061	6,127	5,270	5,204	5,303	5,397	5,699	7,910
Hospitals & health organizations	279	124	203	290	162	2,260(1)	403	2,400(1)
B.C. Research Council(2)	1,874	1,494	1,227	1,147	594	515	790	600
Other	613	967	910	838	1,288	2,095	2,691	3,650
Total	**25,978**	**24,382**	**22,730**	**21,387**	**19,976**	**25,077**	**25,261**	**29,877**

(1) Includes a $2.0 million grant to the Biomedical Processing Centre for 1985-86 and 1987-88.
(2) Includes only annual funding by Provincial Government.

Government of British Columbia

TABLE 27. Current Expenditures on R&D in the Natural Sciences, by Ministry or Agency, 1980-81 to 1987-88

Ministry or agency	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88(e)
	($'000)							
Advanced Education & Job Training	...	...	...	...	...	...	...	4,815
Agriculture & Fisheries	...	...	...	...	...	...	...	672
Agriculture & Food	682	831	577	695	345	150	486	...
Energy, Mines & Petroleum Resources	1,479	1,370	1,290	1,393	866	953	200	280
Environment	2,160	2,170	2,214	1,789	1,682	2,037	2,032	...
Environment & Parks	...	...	...	...	...	...	...	1,718
Forests	8,846	9,626	9,492	8,515	9,347	11,603	13,755	...
Forests & Lands	...	...	...	...	...	...	...	14,227
Health	43	5	5	103	70	225	95	100
Health Care Research Foundation	3,556	3,033	3,372	3,532	3,611	3,578	3,574	4,200
International Trade, Science & Investment	...	...	...	...	...	2,676	1,249	...
Lands, Parks & Housing	-	-	5	-	-	...	-	...
Postsecondary Education	...	...	...	...	...	-	15	...
Provincial Secretary & Government Services	420	420	410	320	-	-	-	-
Science Council of B.C.	5,000	5,840	4,209	3,890	3,450	3,800	3,800	3,800
Tourism, Recreation & Culture	...	...	...	...	...	...	...	-
Transportation & Highways	48	54	48	40	55	55	55	65
Universities, Science & Communications	3,744	1,033	1,108	1,110	550	...	...	...
Total	**25,978**	**24,382**	**22,730**	**21,387**	**19,976**	**25,077**	**25,261**	**29,877**

Note: Refer to page 116 for further information on the reorganization of the B.C. Government.

Government of British Columbia

TABLE 28. Ministerial Personnel Engaged in Scientific Activities in the Natural Sciences, by Activity and Category, 1980-81 to 1987-88

Activity and category	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88(e)
	(person-years)							
Research & development:								
Scientific & professional	132	134	147	135	114	118	119	124
Technical	144	148	135	115	106	97	90	91
Other	30	42	40	40	40	42	38	41
Sub-total	306	324	322	290	260	257	247	256
Related scientific activities:								
Scientific & professional	204	222	203	198	167	204	217	222
Technical	487	506	444	396	302	309	304	296
Other	121	124	122	120	96	99	101	95
Sub-total	812	852	769	714	565	612	622	613
Total natural science activities:								
Scientific & professional	336	356	350	333	281	322	336	346
Technical	631	654	579	511	408	406	394	387
Other	151	166	162	160	136	141	139	136
Total	**1,118**	**1,176**	**1,091**	**1,004**	**825**	**869**	**869**	**869**

Government of British Columbia

TABLE 29. Total Expenditures in the Natural Sciences, by Ministry or Agency and Sources of Funds, 1986-87

Ministry or agency	Ministerial budget	Transfers from other ministries	Transfers from federal government	From trust funds	From other sources	Total
	($'000)					
Agriculture & Food	3,301	-	-	-	-	3,301
Energy, Mines & Petroleum Resources	5,442	-	916	-	-	6,358
Environment	21,175	1,082	-	-	334	22,591
Forests	21,622	-	2,566	-	-	24,188
Health	35	-	65	-	-	100
Health Care Research Foundation	-	-	-	3,500(1)	74	3,574
International Trade, Science & Investment	2,003	-	491	-	-	2,494
Lands, Parks & Housing	222	-	-	-	-	222
Postsecondary Education	15	-	-	-	-	15
Provincial Secretary & Government Services	1,970	-	144	-	180	2,294
Science Council of B.C.	-	3,800(2)	-	-	-	3,800
Transportation & Highways	190	-	-	-	-	190
Total	**55,975**	**4,882**	**4,182**	**3,500**	**588**	**69,127**

(1) Transferred from the B.C. Lotteries Fund.

(2) Transferred from the Ministry of International Trade, Science & Investment.

Government of British Columbia

TABLE 30. Total Expenditures in the Natural Sciences, by Activity and Performer, 1986-87

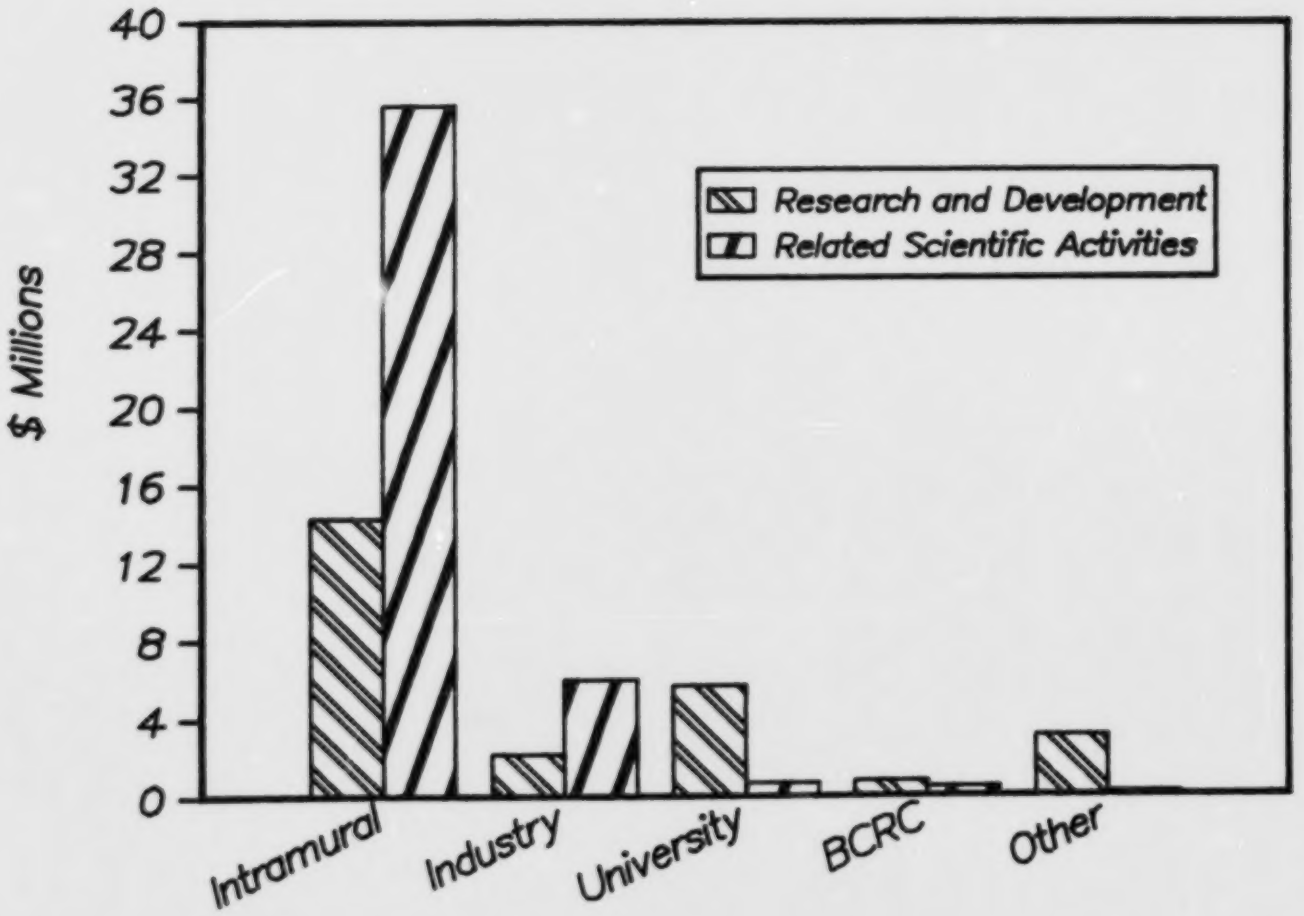
Activity	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council(1)	Other	Total
	($'000)						
Research & development:							
Current expenditures:							
In-house	13,337	...	...	...	...	...	13,337
Contracts	118	198	561	-	265	2,394	3,536
Grants	...	1,825	3,983	403	500	282	6,993
Research fellowships	-	200	1,155	-	25	15	1,395
Sub-total	13,455	2,223	5,699	403	790	2,691	25,261
Capital expenditures	845	...	...	...	...	...	845
Related scientific activities:							
Current expenditures:							
Education support	17	-	-	-	-	-	17
Technical surveys	27,163	6,037	-	-	-	113	33,313
Information services	1,450	-	703	-	500	20	2,673
Special services & studies	3,765	-	-	-	-	53	3,818
Museum services	2,045	-	-	-	-	-	2,045
Sub-total	34,440	6,037	703	-	500	186	41,866
Capital expenditures	1,155	...	...	...	...	...	1,155
Total	**49,895**	**8,260**	**6,402**	**403**	**1,290**	**2,877**	**69,127**

(1) Includes only annual funding by Provincial Government.

Chart 2.

Government of British Columbia

Expenditures on Activities in the Natural Sciences, by Sector of Performance and Activity, 1986–87



Government of British Columbia

TABLE 31. Total Expenditures in the Natural Sciences, by Ministry or Agency and Performer, 1986-87

Ministry or agency	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council(1)	Other	Total
	($'000)						
Agriculture & Food	2,797	84	150	-	250	20	3,301
Energy, Mines & Petroleum Resources	6,056	250	-	-	-	52	6,358
Environment	17,342	4,977	72	-	12	188	22,591
Forests	20,393	973	499	-	3	2,320	24,188
Health	100	-	-	-	-	-	100
Health Care Research Foundation	169	-	3,002	403	-	-	3,574
International Trade, Science & Investment	42	470	982	-	1,000	-	2,494
Lands, Parks & Housing	222	-	-	-	-	-	222
Postsecondary Education	-	-	-	-	-	15	15
Provincial Secretary & Government Services	2,294	-	-	-	-	-	2,294
Science Council of B.C.	300	1,496	1,697	-	25	282	3,800
Transportation & Highways	180	10	-	-	-	-	190
Total	49,895	8,260	6,402	403	1,290	2,877	69,127

(1) Includes only annual funding by Provincial Government.

Government of British Columbia

TABLE 32. Current Expenditures in the Natural Sciences, by Ministry or Agency and Activity, 1986-87

Ministry or agency	Research & development	Education support	Technical surveys	Information services	Special services & studies	Museum services	Total
	($'000)						
Agriculture & Food	486	-	-	515	2,300	-	3,301
Energy, Mines & Petroleum Resources	200	17	4,715	315	482	-	5,729
Environment	2,032	-	19,333	326	388	1	22,080
Forests	13,755	-	9,043	64	466	-	23,328
Health	95	-	-	-	5	-	100
Health Care Research Foundation	3,574	-	-	-	-	-	3,574
International Trade, Science & Investment	1,249	-	-	1,203	42	-	2,494
Lands, Parks & Housing	-	-	222	-	-	-	222
Postsecondary Education	15	-	-	-	-	-	15
Provincial Secretary & Government Services	-	-	-	250	-	2,044	2,294
Science Council of B.C.	3,800	-	-	-	-	-	3,800
Transportation & Highways	55	-	-	-	135	-	190
Total	**25,261**	**17**	**33,313**	**2,673**	**3,818**	**2,045**	**67,127**

Government of British Columbia

TABLE 33. Current Expenditures on R&D in the Natural Sciences, by Ministry or Agency and Performer, 1986-87

Ministry or agency	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council(1)	Other	Total
	($'000)						
Agriculture & Food	2	84	150	-	250	-	486
Energy, Mines & Petroleum Resources	200	-	-	-	-	-	200
Environment	1,701	163	72	-	12	84	2,032
Forests	10,943	-	499	-	3	2,310	13,755
Health	95	-	-	-	-	-	95
Health Care Research Foundation	169	-	3,002	403	-	-	3,574
International Trade, Science & Investment	-	470	279	-	500	-	1,249
Lands, Parks & Housing	-	-	-	-	-	-	-
Postsecondary Education	-	-	-	-	-	15	15
Provincial Secretary & Government Services	-	-	-	-	-	-	-
Science Council of B.C.	300	1,496	1,697	-	25	282	3,800
Transportation & Highways	45	10	-	-	-	-	55
Total	**13,455**	**2,223**	**5,699**	**403**	**790**	**2,691**	**25,261**

(1) Includes only annual funding by Provincial Government.

Government of British Columbia

TABLE 34. Detail of Intramural Expenditures in the Natural Sciences, by Ministry or Agency, 1986-87

Ministry or agency	Current expenditures		Capital expenditures	Total
	Personnel costs	Other costs		
	($'000)			
Agriculture & Food	1,713	1,084	-	2,797
Energy, Mines & Petroleum Resources	3,347	2,080	629	6,056
Environment	10,328	6,503	511	17,342
Forests	12,961	6,572	860	20,393
Health	70	30	-	100
Health Care Research Foundation	-	169	-	169
International Trade, Science & Investment	42	-	-	42
Lands, Parks & Housing	55	167	-	222
Postsecondary Education	-	-	-	-
Provincial Secretary & Government Services	1,220	1,074	-	2,294
Science Council of B.C.	210	90	-	300
Transportation & Highways	180	-	-	180
Total	**30,126**	**17,769**	**2,000**	**49,895**

Government of British Columbia

TABLE 35. Ministerial Personnel Engaged in Scientific Activities in the Natural Sciences, by Ministry or Agency, Activity and Category, 1986-87

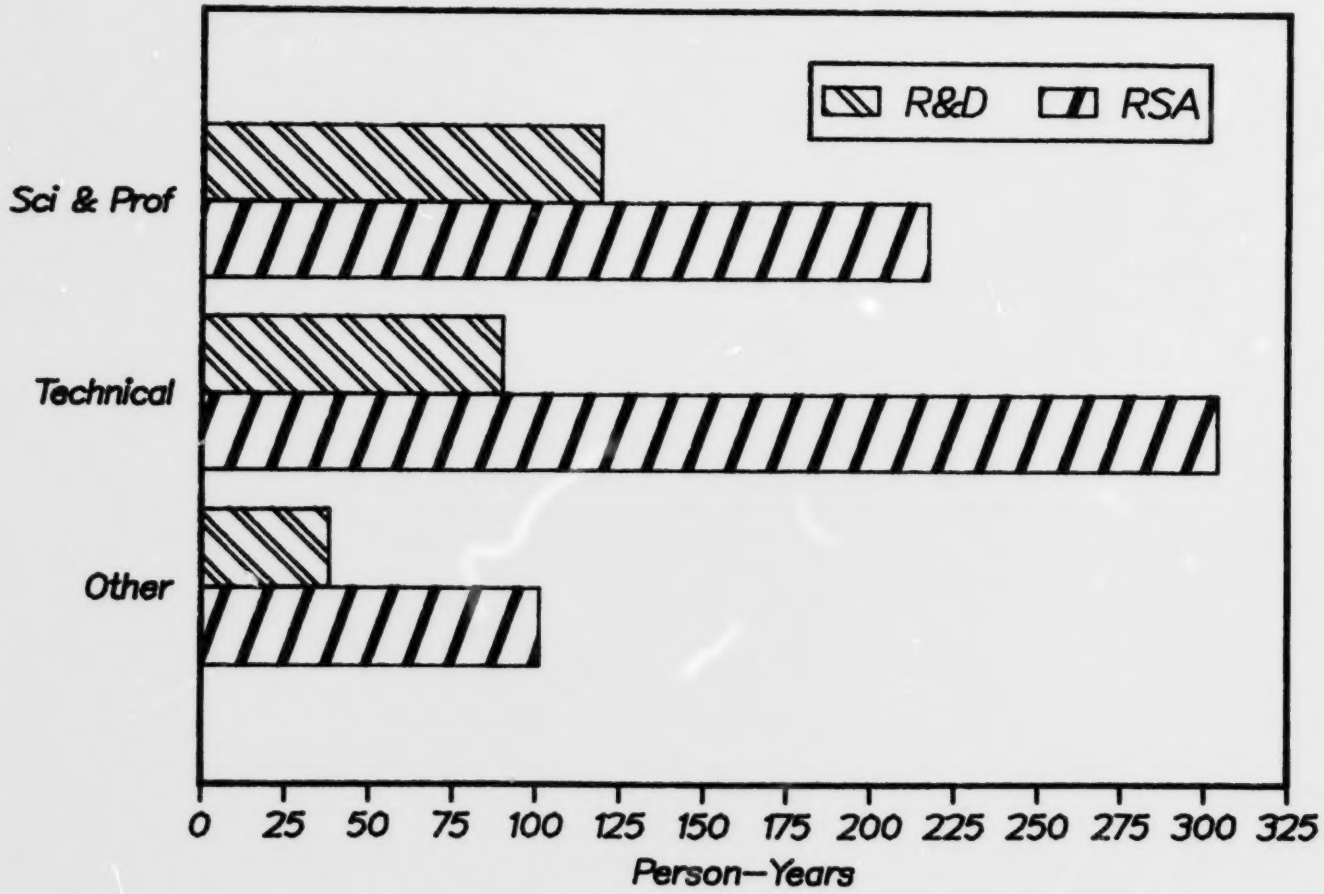
Ministry or agency	Research & development				Related scientific activities			
	Scientific & professional	Technical	Other	Total	Scientific & professional	Technical	Other	Total
	(person-years)							
Agriculture & Food	-	-	-	-	36	11	7	54
Energy, Mines & Petroleum Resources	5	-	-	5	43	12	13	68
Environment	26	11	3	40	68	162	42	272
Forests	81	78	32	191	55	97	30	182
Health	2	-	-	2	-	-	-	-
Health Care Research Foundation(1)	-	-	-	-	-	-	-	-
International Trade, Science & Investment	-	-	-	-	1	-	-	1
Lands, Parks & Housing	-	-	-	-	1	1	-	2
Postsecondary Education	-	-	-	-	-	-	-	-
Provincial Secretary & Government Services	-	-	-	-	11	20	9	40
Science Council of B.C.	4	-	3	7	-	-	-	-
Transportation & Highways	1	1	-	2	2	1	-	3
Total	119	90	38	247	217	304	101	622

(1) Administrative personnel included with Science Council of B.C.

Chart 3.

Government of British Columbia

Personnel Engaged in Activities in the Natural Sciences, by Activity and Category, 1986–87



Government of British Columbia

TABLE 36. Objectives of Expenditures in the Natural Sciences, by Ministry or Agency, 1986-87

Ministry or agency	Advancement of science	Communications	Energy & fuels			
			Conservation	Fossil fuels	Renewable resources	Other
	($'000)					
Agriculture & Food	-	-	-	-	-	-
Energy, Mines & Petroleum Resources	-	-	-	900	-	-
Environment	240	-	-	-	-	-
Forests	-	-	-	-	-	-
Health	-	-	-	-	-	-
Health Care Research Foundation	-	-	-	-	-	-
International Trade, Science & Investment	321	-	-	-	-	1,000
Lands, Parks & Housing	-	-	-	-	-	-
Postsecondary Education	-	-	-	-	-	-
Provincial Secretary & Government Services	-	-	-	-	-	-
Science Council of B.C.	-	714	-	122	13	-
Transportation & Highways	-	-	-	-	-	-
Total	**561**	**714**	**-**	**1,022**	**13**	**1,000**

Government of British Columbia

TABLE 36. Objectives of Expenditures in the Natural Sciences, by Ministry or Agency, 1986-87 - Continued

Ministry or agency	Environmental issues				Health
	Air	Land	Water	Other	
	($'000)				
Agriculture & Food	-	-	-	-	-
Energy, Mines & Petroleum Resources	-	-	-	-	-
Environment	3,208	770	2,056	2,496	104
Forests	-	-	-	230	-
Health	-	-	-	-	100
Health Care Research Foundation	-	-	-	-	3,574
International Trade, Science & Investment	-	-	-	-	-
Lands, Parks & Housing	-	-	-	-	-
Postsecondary Education	-	-	-	-	15
Provincial Secretary & Government Services	-	-	-	-	-
Science Council of B.C.	-	-	-	-	-
Transportation & Highways	-	-	-	-	-
Total	**3,208**	**770**	**2,056**	**2,726**	**3,793**

TABLE 36. Objectives of Expenditures in the Natural Sciences, by Ministry or Agency, 1986-87 - Continued

Ministry or agency	Industrial & economic development					
	Agriculture	Fisheries	Forestry	Manufacturing	Minerals	Other
	($'000)					
Agriculture & Food	3,301	-	-	-	-	-
Energy, Mines & Petroleum Resources	-	-	-	-	5,458	-
Environment	186	1,114	1,210	-	-	-
Forests	-	-	23,958	-	-	-
Health	-	-	-	-	-	-
Health Care Research Foundation	-	-	-	-	-	-
International Trade, Science & Investment	-	-	-	470	-	703
Lands, Parks & Housing	-	-	-	-	-	-
Postsecondary Education	-	-	-	-	-	-
Provincial Secretary & Government Services	-	-	-	-	-	-
Science Council of B.C.	369	476	1,114	281	266	445
Transportation & Highways	-	-	-	-	-	-
Total	**3,856**	**1,590**	**26,282**	**751**	**5,724**	**1,148**

Government of British Columbia

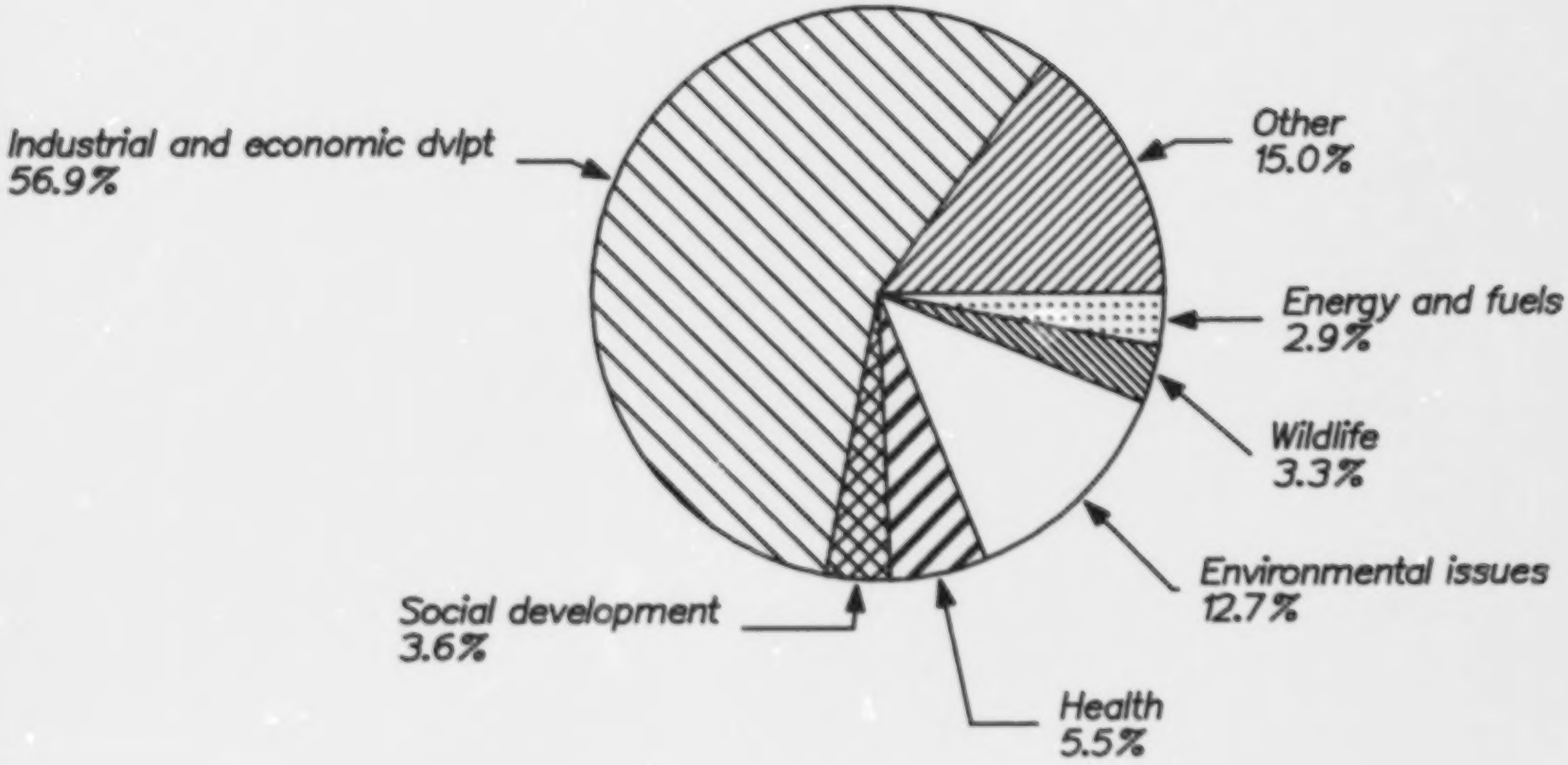
TABLE 36. Objectives of Expenditures in the Natural Sciences, by Ministry or Agency, 1986-87 - Concluded

Ministry or agency	Culture, sport & recreation	Transportation	Wildlife	Other	Total
	($'000)				
Agriculture & Food	-	-	-	-	3,301
Energy, Mines & Petroleum Resources	-	-	-	-	6,358
Environment	-	-	2,274	8,933	22,591
Forests	-	-	-	-	24,188
Health	-	-	-	-	100
Health Care Research Foundation	-	-	-	-	3,574
International Trade, Science & Investment	-	-	-	-	2,494
Lands, Parks & Housing	222	-	-	-	222
Postsecondary Education	-	-	-	-	15
Provincial Secretary & Government Services	2,294	-	-	-	2,294
Science Council of B.C.	-	-	-	-	3,800
Transportation & Highways	-	190	-	-	190
Total	**2,516**	**190**	**2,274**	**8,933**	**69,127**

Chart 4.

Government of British Columbia

Objectives of Expenditures in the Natural Sciences, 1986–87



Government of British Columbia

TABLE 37. Objectives of Expenditures in the Natural Sciences, by Activity, 1986-87

Objective	Intramural		Extramural		Total
	Research & development	Related scientific activities	Research & development	Related scientific activities	
	($'000)				
Advancement of science	-	282	279	-	561
Communications	56	-	658	-	714
Energy & fuels:					
Conservation	-	-	-	-	-
Fossil fuels	10	900	112	-	1,022
Renewable resources	1	-	12	-	13
Other	-	-	500	500	1,000
Environmental issues:					
Air	260	2,881	57	10	3,208
Land	8	758	4	-	770
Water	148	1,905	-	3	2,056
Other	228	2,164	300	34	2,726
Health	264	109	3,420	-	3,793
Industrial & economic development:					
Agriculture	53	2,959	824	20	3,856
Fisheries	607	344	556	83	1,590
Forestry	11,831	8,690	3,650	2,111	26,282
Manufacturing	22	-	729	-	751
Minerals	221	4,956	245	302	5,724
Other	35	-	410	703	1,148
Social development:					
Culture, sport & recreation	-	2,516	-	-	2,516
Transportation	45	135	10	-	190
Wildlife	511	1,723	40	-	2,274
Other	-	5,273	-	3,660	8,933
Total	**14,300**	**35,595**	**11,806**	**7,426**	**69,127**

Government of British Columbia

TABLE 38. Total Expenditures in the Natural Sciences, by Activity and Performer, 1987-88(e)

Activity	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council(1)	Other	Total
	($'000)						
Research & development:							
Current expenditures:							
In-house	12,632	...	...	...	...	...	12,632
Contracts	108	427	660	-	-	3,435	4,630
Grants	...	1,950	4,350	2,400	600	200	9,500
Research fellowships	-	200	2,900	-	-	15	3,115
Sub-total	12,740	2,577	7,910	2,400	600	3,650	29,877
Capital expenditures	1,500	...	...	...	...	...	1,500
Related scientific activities:							
Current expenditures:							
Education support	20	-	-	-	-	-	20
Technical surveys	29,420	8,477	-	-	-	63	37,960
Information services	1,373	-	720	-	500	18	2,611
Special services & studies	4,552	-	-	-	-	75	4,627
Museum services	1,001	-	-	-	-	-	1,001
Sub-total	36,366	8,477	720	-	500	156	46,219
Capital expenditures	1,683	...	...	...	...	...	1,683
Total	**52,289**	**11,054**	**8,630**	**2,400**	**1,100**	**3,806**	**79,279**

(1) Includes only annual funding by Provincial Government.

Government of British Columbia

TABLE 39. Total Expenditures in the Natural Sciences, by Ministry or Agency and Performer, 1987-88(e)

Ministry or agency	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council(1)	Other	Total
	($'000)						
Advanced Education & Job Training	43	500	2,520	2,000	1,000	15	6,078
Agriculture & Fisheries	3,066	363	150	-	-	108	3,687
Energy, Mines & Petroleum Resources ...	6,891	370	-	-	-	75	7,336
Environment & Parks	20,250	6,451	57	-	-	28	26,786
Forests & Lands	20,024	1,850	603	-	-	3,380	25,857
Health	135	-	-	-	-	-	135
Health Care Research Foundation	200	-	3,600	400	-	-	4,200
Science Council of B.C	300	1,500	1,700	-	100	200	3,800
Tourism, Recreation & Culture	1,200	-	-	-	-	-	1,200
Transportation & Highways	180	20	-	-	-	-	200
**Total	**52,289**	**11,054**	**8,630**	**2,400**	**1,100**	**3,806**	**79,279**

(1) Includes only annual funding by Provincial Government.

Government of British Columbia

TABLE 40. Current Expenditures in the Natural Sciences, by Ministry or Agency and Activity, 1987-88(e)

Ministry or agency	Research & development	Education support	Technical surveys	Information services	Special services & studies	Museum services	Total
	($'000)						
Advanced Education & Job Training ...	4,815	-	-	1,220	43	-	6,078
Agriculture & Fisheries	672	-	182	513	2,300	-	3,667
Energy, Mines & Petroleum Resources .	280	20	5,456	340	525	-	6,621
Environment	1,718	-	22,950	305	1,089	1	26,063
Forests	14,227	-	9,372	33	500	-	24,132
Health	100	-	-	-	35	-	135
Health Care Research Foundation	4,200	-	-	-	-	-	4,200
Science Council of B.C.	3,800	-	-	-	-	-	3,800
Tourism, Recreation & Culture	-	-	-	200	-	1,000	1,200
Transportation & Highways	65	-	-	-	135	-	200
Total	**29,877**	**20**	**37,960**	**2,611**	**4,627**	**1,001**	**76,096**

Government of British Columbia

TABLE 41. Current Expenditures on R&D in the Natural Sciences, by Ministry or Agency and Performer, 1987-88(e)

Ministry or agency	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council(1)	Other	Total
	($'000)						
Advanced Education & Job Training	-	500	1,800	2,000	500	15	4,815
Agriculture & Fisheries	139	343	150	-	-	40	672
Energy, Mines & Petroleum Resources	230	50	-	-	-	-	280
Environment & Parks	1,582	64	57	-	-	15	1,718
Forests & Lands	10,144	100	603	-	-	3,380	14,227
Health	100	-	-	-	-	-	100
Health Care Research Foundation	200	-	3,600	400	-	-	4,200
Science Council of B.C.	300	1,500	1,700	-	100	200	3,800
Tourism, Recreation & Culture	-	-	-	-	-	-	-
Transportation & Highways	45	20	-	-	-	-	65
**Total	**12,740**	**2,577**	**7,910**	**2,400**	**600**	**3,650**	**29,877**

(1) Includes only annual funding by Provincial Government.

Government of British Columbia

TABLE 42. Ministerial Personnel Engaged in Scientific Activities in the Natural Sciences, by Ministry or Agency, Activity and Category, 1987-88(e)

Ministry or agency	Research & development				Related scientific activities			
	Scientific & professional	Technical	Other	Total	Scientific & professional	Technical	Other	Total
	(person-years)							
Advanced Education & Job Training ...	-	-	-	-	1	-	-	1
Agriculture & Fisheries	3	1	-	4	37	12	7	56
Energy, Mines & Petroleum Resources .	5	-	-	5	48	12	13	73
Environment & Parks	24	13	3	40	69	163	43	275
Forests & Lands	85	76	34	195	52	98	30	180
Health	2	-	-	2	1	-	-	1
Health Care Research Foundation(1) ..	-	-	-	-	-	-	-	-
Science Council of B.C.	4	-	4	8	-	-	-	-
Tourism, Recreation & Culture	-	-	-	-	12	10	2	24
Transportation & Highways	1	1	-	2	2	1	-	3
**Total ..... **	**124**	**91**	**41**	**256**	**222**	**296**	**95**	**613**

(1) Administrative personnel included with Science Council of B.C.

Government of British Columbia

TABLE 43. Objectives of Expenditures in the Natural Sciences, by Ministry or Agency, 1987-88(e)

Ministry or agency	Advancement of science	Communications	Energy & fuels			
			Conservation	Fossil fuels	Renewable resources	Other
	($'000)					
Advanced Education & Job Training	1,843	-	-	-	-	1,000
Agriculture & Fisheries	-	-	-	-	-	-
Energy, Mines & Petroleum Resources	-	-	-	900	-	-
Environment & Parks	240	-	-	-	-	-
Forests & Lands	-	-	-	-	-	-
Health	-	-	-	-	-	-
Health Care Research Foundation	-	-	-	-	-	-
Science Council of B.C.	-	761	27	54	27	-
Tourism, Recreation & Culture	-	-	-	-	-	-
Transportation & Highways	-	-	-	-	-	-
Total	**2,083**	**761**	**27**	**954**	**27**	**1,000**

Government of British Columbia

TABLE 43. Objectives of Expenditures in the Natural Sciences, by Ministry or Agency, 1987-88(e) - Continued

Ministry or agency	Environmental issues				Health
	Air	Land	Water	Other	
	($'000)				
Advanced Education & Job Training	-	-	-	-	2,015
Agriculture & Fisheries	-	-	-	-	-
Energy, Mines & Petroleum Resources	-	-	-	-	-
Environment & Parks	3,210	1,020	3,602	2,405	100
Forests & Lands	-	-	-	216	-
Health	-	-	-	-	135
Health Care Research Foundation	-	-	-	-	4,200
Science Council of B.C.	-	-	-	-	-
Tourism, Recreation & Culture	-	-	-	-	-
Transportation & Highways	-	-	-	-	-
Total	**3,210**	**1,020**	**3,602**	**2,621**	**6,450**

Government of British Columbia

TABLE 43. Objectives of Expenditures in the Natural Sciences, by Ministry or Agency, 1987-88(e) - Continued

Ministry or agency	Industrial & economic development					
	Agriculture	Fisheries	Forestry	Manufacturing	Minerals	Other
	($'000)					
Advanced Education & Job Training ...	-	-	-	500	-	720
Agriculture & Fisheries	3,298	389	-	-	-	-
Energy, Mines & Petroleum Resources .	-	-	-	-	6,436	-
Environment & Parks	150	2,255	50	-	-	-
Forests & Lands	-	-	25,641	-	-	-
Health	-	-	-	-	-	-
Health Care Research Foundation	-	-	-	-	-	-
Science Council of B.C.	434	434	977	434	326	326
Tourism, Recreation & Culture	-	-	-	-	-	-
Transportation & Highways	-	-	-	-	-	-
**Total ..... **	**3,882**	**3,078**	**26,668**	**934**	**6,762**	**1,046**

Government of British Columbia

TABLE 43. Objectives of Expenditures in the Natural Sciences, by Ministry or Agency, 1987-88(e) - Concluded

Ministry or agency	Culture, sport & recreation	Transportation	Wildlife	Other	Total
	($'000)				
Advanced Education & Job Training	-	-	-	-	6,078
Agriculture & Fisheries	-	-	-	-	3,687
Energy, Mines & Petroleum Resources	-	-	-	-	7,336
Environment & Parks	269	-	2,248	11,237	26,786
Forests & Lands	-	-	-	-	25,857
Health	-	-	-	-	135
Health Care Research Foundation	-	-	-	-	4,200
Science Council of B.C.	-	-	-	-	3,800
Tourism, Recreation & Culture	1,200	-	-	-	1,200
Transportation & Highways	-	200	-	-	200
Total	**1,469**	**200**	**2,248**	**11,237**	**79,279**

Government of British Columbia

TABLE 44. Objectives of Expenditures in the Natural Sciences, by Activity, 1987-88(e)

Objective	Intramural		Extramural		Total
	Research & development	Related scientific activities	Research & development	Related scientific activities	
	($'000)				
Advancement of science	-	283	1,800	-	2,083
Communications	61	-	700	-	761
Energy & fuels:					
Conservation	2	-	25	-	27
Fossil fuels	4	900	50	-	954
Renewable resources	2	-	25	-	27
Other	-	-	500	500	1,000
Environmental issues:					
Air	260	2,883	57	10	3,210
Land	8	1,008	4	-	1,020
Water	198	3,401	-	3	3,602
Other	199	2,214	200	8	2,621
Health	300	135	6,015	-	6,450
Industrial & economic development:					
Agriculture	36	2,945	883	18	3,882
Fisheries	641	367	500	1,570	3,078
Forestry	11,668	8,475	4,783	1,742	26,668
Manufacturing	34	-	900	-	934
Minerals	256	5,761	350	395	6,762
Other	26	-	300	720	1,046
Social development:					
Culture, sport & recreation	-	1,469	-	-	1,469
Transportation	45	135	20	-	200
Wildlife	500	1,723	25	-	2,248
Other	-	6,350	-	4,887	11,237
Total	**14,240**	**38,049**	**17,137**	**9,853**	**79,279**

Social Sciences and Humanities

Government of British Columbia

TABLE 45. Total Expenditures in the Social Sciences and Humanities, by Activity, 1980-81 to 1987-88

Activity	1980-81	1981-82	1982-83(e)	1983-84	1984-85(e)	1985-86	1986-87	1987-88(e)
	($'000)							
Research and development:								
Current expenditures:								
In-house	713	730	732	630	683	408	154	267
Contracts	10	10	10	281	255	265	276	491
Grants	21	20	-	70	80	90	86	136
Research fellowships	-	-	-	-	-	-	-	-
Sub-total	744	760	742	981	1,018	763	516	894
Capital expenditures	20	20	20	2	1	-	10	10
Related scientific activities:								
Current expenditures	26,933	25,335	28,275	19,486	16,016	19,455	22,748	25,982
Capital expenditures	866	691	655	584	560	530	312	294
Total	**28,563**	**26,806**	**29,692**	**21,053**	**17,595**	**20,748**	**23,586**	**27,180**

Government of British Columbia

TABLE 46. Total Expenditures in the Social Sciences and Humanities, by Ministry or Agency, 1980-81 to 1987-88

Ministry or agency	1980-81	1981-82	1982-83(e)	1983-84	1984-85(e)	1985-86	1986-87	1987-88(e)
	($'000)							
Advanced Education & Job Training	...	...	...	...	...	...	...	1,858
Attorney General	1,280	1,330	1,369	757	846	837	848	848
Consumer & Corporate Affairs	443	616	562	539	450	439	679	...
Economic Development	...	...	...	...	...	...	...	6,500
Education	1,767	1,907	1,897	1,160	900	2,403	2,559	2,610
Energy, Mines & Petroleum Resources ..	5,197	3,684	5,784	5,946	1,975	2,367	2,909	2,161
Environment	10	65	170	145	138	90	85	...
Environment & Parks	...	...	...	...	...	...	...	310
Finance	1,299	2,052	2,277	-	-	52	95	...
Finance & Corporate Relations	...	...	...	...	...	...	...	809
Forests	91	233	142	-	-	-	-	...
Health	1,475	1,686	1,755	1,290	1,517	1,715	1,570	1,761
Human Resources	...	...	...	250	316	301	595	...
Industry & Small Business Development	11,037	8,240	8,240	5,348	5,348	4,539	6,121	...
International Trade, Science & Investment	...	...	...	...	...	123	748	...
Labour	564	1,208	1,236	157	157	205	206	...
Labour & Consumer Services	...	...	...	...	...	...	...	200
Lands, Parks & Housing	270	192	225	322	404	...	150	...
Municipal Affairs	539	274	351	389	391	510	411	567
Postsecondary Education	...	...	...	...	...	1,883	1,546	...
Provincial Secretary & Government Services	3,978	4,257	4,471	4,232	4,510	4,760	4,446	2,714
Social Services & Housing	...	...	...	...	...	...	...	855
Tourism	181	261	300	323	393	215	353	...
Tourism, Recreation & Culture	...	...	...	...	...	...	...	5,690
Transportation & Highways	432	801	913	195	250	121	119	120
Women's Secretariat & Youth Council ..	...	...	...	...	...	188	146	177
**Total	**28,563**	**26,806**	**29,692**	**21,053**	**17,595**	**20,748**	**23,586**	**27,180**

Note: Refer to page 116 for further information on the reorganization of the B.C. Government.

Government of British Columbia

TABLE 47. Total Expenditures in the Social Sciences and Humanities, by Performer, 1980-81 to 1987-88

Performer	1980-81	1981-82	1982-83(e)	1983-84	1984-85(e)	1985-86	1986-87	1987-88(e)
	($'000)							
Intramural	16,741	18,561	20,915	13,739	13,457	15,753	18,543	21,673
Industry	10,016	5,804	6,460	5,453	2,096	3,892	3,316	3,780
Universities	85	69	51	493	548	362	417	409
Hospitals and health organizations	45	49	54	40	40	59	71	75
B.C. Research Council(1)	49	91	106	179	224	11	6	50
Other	1,627	2,232	2,106	1,149	1,230	671	1,233	1,193
Total	**28,563**	**26,806**	**29,692**	**21,053**	**17,595**	**20,748**	**23,586**	**27,180**

(1) Includes only annual funding by Provincial Government.

Government of British Columbia

TABLE 48. Current Expenditures on R&D in the Social Sciences and Humanities, by Performer, 1980-81 to 1987-88

Performer	1980-81	1981-82	1982-83(e)	1983-84	1984-85(e)	1985-86	1986-87	1987-88(e)
	($'000)							
Intramural	723	740	742	640	693	408	154	467
Industry	-	-	-	8	8	20	20	15
Universities	21	20	-	55	53	50	54	79
Hospitals & health organizations	-	-	-	-	-	-	-	-
B.C. Research Council(1)	-	-	-	-	-	-	-	25
Other	-	-	-	278	264	285	288	308
Total	**744**	**760**	**742**	**981**	**1,018**	**763**	**516**	**894**

(1) Includes only annual funding by Provincial Government.

Government of British Columbia

TABLE 49. Current Expenditures on R&D in the Social Sciences and Humanities, by Ministry or Agency, 1980-81 to 1987-88

Ministry or agency	1980-81	1981-82	1982-83(e)	1983-84	1984-85(e)	1985-86	1986-87	1987-88(e)
	($'000)							
Advanced Education & Job Training	...	...	...	...	...	...	...	.
Attorney General	153	162	173	125	125	54	60	80
Consumer & Corporate Affairs	-	-	-	-	-	-	-	...
Economic Development	...	...	...	...	...	...	...	100
Education	.	.	.	.	.	.	.	.
Energy, Mines & Petroleum Resources	.	.	.	.	.	.	.	.
Environment	.	.	.	.	.	.	.	...
Environment & Parks	...	...	...	...	...	...	...	.
Finance	.	.	.	.	.	.	.	...
Finance & Corporate Relations	...	...	...	...	...	...	...	.
Health	121	132	97	50	90	185	-	-
Human Resources	...	...	...	45	58	55	49	...
Industry & Small Business Development	20	-	-	25	25	20	50	...
International Trade, Science & Investment	...	...	...	...	...	.	.	...
Labour	.	.	.	.	.	.	.	...
Labour & Consumer Services	...	...	...	...	...	...	...	.
Lands, Parks & Housing	-	-	-	-	-	-	-	...
Municipal Affairs	-	16	22	37	38	-	-	57
Postsecondary Education	...	...	...	...	...	.	.	...
Provincial Secretary & Government Services	450	450	450	699	682	443	357	-
Social Services & Housing	...	...	...	...	...	...	...	300
Tourism	.	.	.	.	.	.	.	...
Tourism, Recreation & Culture	...	...	...	...	...	...	...	357
Transportation & Highways	-	-	-	-	-	6	-	-
Women's Secretariat & Youth Council	...	...	...	...	...	.	.	.
Total	**744**	**760**	**742**	**981**	**1,018**	**763**	**516**	**894**

Note: Refer to page 116 for further information on the reorganization of the B.C. Government.

Government of British Columbia

TABLE 50. Ministerial Personnel Engaged in Scientific Activities in the Social Sciences and Humanities, by Activity and Category, 1980-81 to 1987-88

Activity and category	1980-81	1981-82	1982-83(e)	1983-84	1984-85(e)	1985-86	1986-87	1987-88(e)
	(person-years)							
Research & development:								
Scientific & professional	15	20	19	13	13	6	3	6
Technical	6	6	6	6	7	2	-	-
Other	4	3	2	1	1	5	-	-
Sub-total	25	29	27	20	21	13	3	6
Related scientific activities:								
Scientific & professional	215	236	227	170	157	189	235	264
Technical	80	79	78	43	46	49	25	34
Other	125	145	134	104	92	111	103	124
Sub-total	420	460	439	317	295	349	363	422
Total social science activities:								
Scientific & professional	230	256	246	183	170	195	238	270
Technical	86	85	84	49	53	51	25	34
Other	129	148	136	105	93	116	103	124
Total	**445**	**489**	**466**	**337**	**316**	**362**	**366**	**428**

Government of British Columbia

TABLE 51. Total Expenditures in the Social Sciences and Humanities, by Ministry or Agency and Sources of Funds, 1986-87

Ministry or agency	Ministerial budget	Transfers from other ministries	Transfers from federal government	From trust funds	From other sources	Total
	($'000)					
Attorney General	748	-	100	-	-	848
Consumer & Corporate Affairs	679	-	-	-	-	679
Education	2,559	-	-	-	-	2,559
Energy, Mines & Petroleum Resources	2,909	-	-	-	-	2,909
Environment	85	-	-	-	-	85
Finance	95	-	-	-	-	95
Health	1,570	-	-	-	-	1,570
Human Resources	595	-	-	-	-	595
Industry & Small Business Development	5,788	128	205	-	-	6,121
International Trade, Science & Investment	748	-	-	-	-	748
Labour	206	-	-	-	-	206
Lands, Parks & Housing	150	-	-	-	-	150
Municipal Affairs	411	-	-	-	-	411
Postsecondary Education	1,546	-	-	-	-	1,546
Provincial Secretary & Government Services	3,752	148	-	114	432	4,446
Tourism	303	25	25	-	-	353
Transportation & Highways	119	-	-	-	-	119
Women's Secretariat & Youth Council	146	-	-	-	-	146
Total	**22,409**	**301**	**330**	**114**	**432**	**23,586**

Government of British Columbia

TABLE 52. Total Expenditures in the Social Sciences and Humanities, by Activity and Performer, 1986-87

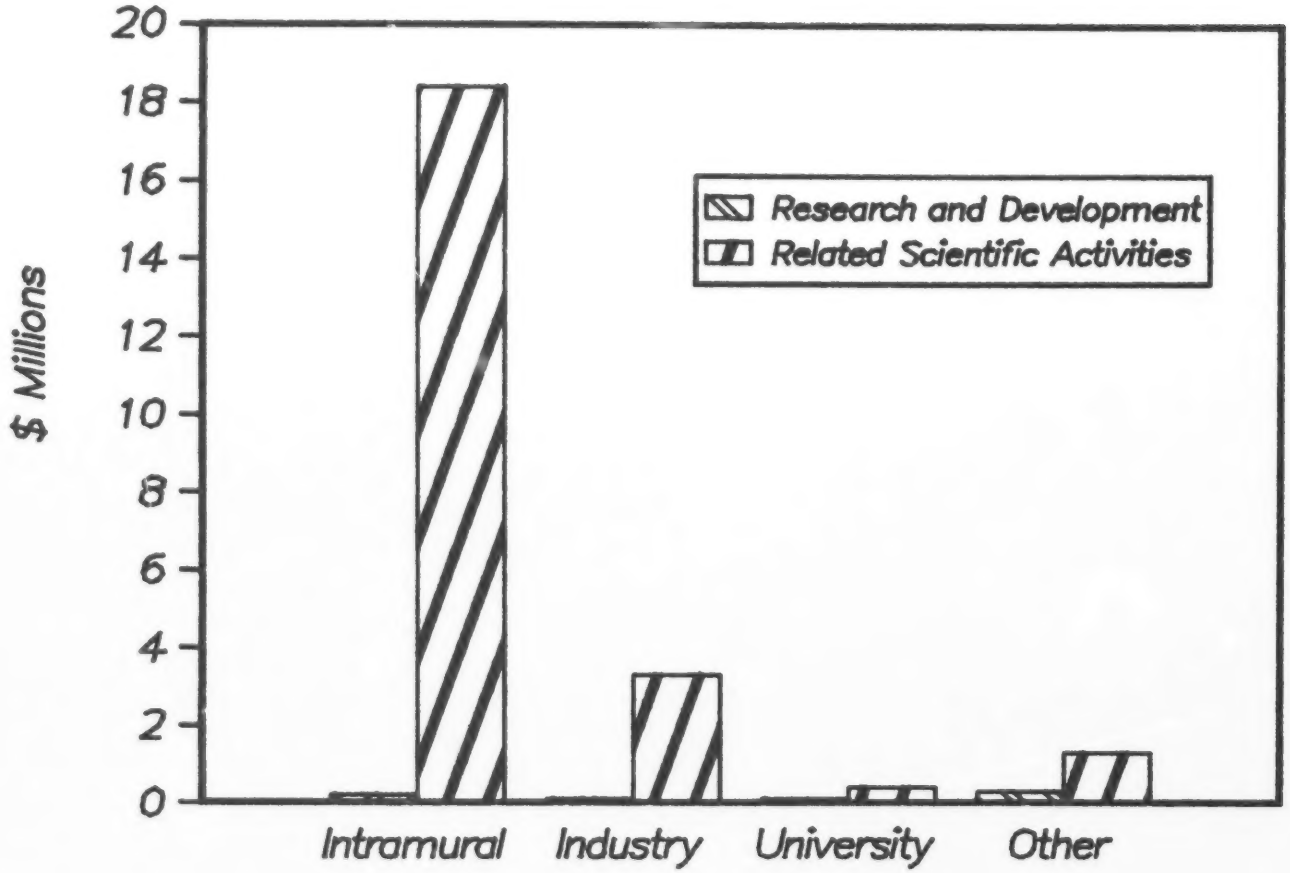
Activity	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council(1)	Other	Total
	($'000)						
Research and development:							
Current expenditures:							
In-house	154	...	...	...	...	...	154
Contracts	-	20	54	-	-	202	276
Grants	...	-	-	-	-	86	86
Research fellowships	-	-	-	-	-	-	-
Sub-Total	154	20	54	-	-	288	516
Capital expenditures	10	...	...	...	...	...	10
Related scientific activities:							
Current expenditures	18,067	3,296	363	71	6	945	22,748
Capital expenditures	312	...	...	...	...	...	312
Total	**18,543**	**3,316**	**417**	**71**	**6**	**1,233**	**23,586**

(1) Includes only annual funding by Provincial Government.

Chart 5.

Government of British Columbia

Expenditures on Activities in the Social Sciences and Humanities, by Sector of Performance and Activity, 1986–87



Government of British Columbia

TABLE 53. Total Expenditures in the Social Sciences and Humanities, by Ministry or Agency and Performer, 1986-87

Ministry or agency	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council(1)	Other	Total
	($'000)						
Attorney General	359	130	-	-	-	359	848
Consumer & Corporate Affairs	679	-	-	-	-	-	679
Education	1,126	1,433	-	-	-	-	2,559
Energy, Mines & Petroleum Resources	2,605	240	-	-	-	64	2,909
Environment	85	-	-	-	-	-	85
Finance	80	15	-	-	-	-	95
Health	1,181	-	290	71	-	28	1,570
Human Resources	587	-	-	-	-	8	595
Industry & Small Business Development	5,011	848	73	-	-	189	6,121
International Trade, Science & Investment	748	-	-	-	-	-	748
Labour	200	-	-	-	6	-	206
Lands, Parks & Housing	150	-	-	-	-	-	150
Municipal Affairs	404	7	-	-	-	-	411
Postsecondary Education	1,296	245	-	-	-	5	1,546
Provincial Secretary & Government Services	3,837	-	54	-	-	555	4,446
Tourism	120	233	-	-	-	-	353
Transportation & Highways	-	119	-	-	-	-	119
Women's Secretariat & Youth Council	75	46	-	-	-	25	146
Total	**18,543**	**3,316**	**417**	**71**	**6**	**1,233**	**23,586**

(1) Includes only annual funding by provincial government.

Government of British Columbia

TABLE 54. Total Expenditures in the Social Sciences and Humanities, by Ministry or Agency and Activity, 1986-87

Ministry or agency	Research & development			Related scientific activities			Total
	Current	Capital	Total	Current	Capital	Total	
	($'000)						
Attorney General	60	-	60	788	-	788	848
Consumer & Corporate Affairs	-	-	-	679	-	679	679
Education	-	-	-	2,559	-	2,559	2,559
Energy, Mines & Petroleum Resources	-	-	-	2,909	-	2,909	2,909
Environment	-	-	-	85	-	85	85
Finance	-	-	-	95	-	95	95
Health	-	-	-	1,540	30	1,570	1,570
Human Resources	49	-	49	546	-	546	595
Industry & Small Business Development	50	10	60	5,841	220	6,061	6,121
International Trade, Science & Investment	-	-	-	748	-	748	748
Labour	-	-	-	206	-	206	206
Lands, Parks & Housing	-	-	-	150	-	150	150
Municipal Affairs	-	-	-	411	-	411	411
Postsecondary Education	-	-	-	1,546	-	1,546	1,546
Provincial Secretary & Government Services	357	-	357	4,027	62	4,089	4,446
Tourism	-	-	-	353	-	353	353
Transportation & Highways	-	-	-	119	-	119	119
Women's Secretariat & Youth Council	-	-	-	146	-	146	146
Total	**516**	**10**	**526**	**22,748**	**312**	**23,060**	**23,586**

Government of British Columbia

TABLE 55. Current Expenditures on R&D in the Social Sciences and Humanities, by Ministry or Agency and Performer, 1986-87

Ministry or agency	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council(1)	Other	Total
	($'000)						
Attorney General	40	20	-	-	-	-	60
Consumer & Corporate Affairs	-	-	-	-	-	-	-
Education	-	-	-	-	-	-	-
Energy, Mines & Petroleum Resources	-	-	-	-	-	-	-
Environment	-	-	-	-	-	-	-
Finance	-	-	-	-	-	-	-
Health	49	-	-	-	-	-	49
Human Resources	50	-	-	-	-	-	50
Industry & Small Business Development	-	-	-	-	-	-	-
International Trade, Science & Investment	-	-	-	-	-	-	-
Labour	-	-	-	-	-	-	-
Lands, Parks & Housing	-	-	-	-	-	-	-
Municipal Affairs	-	-	-	-	-	-	-
Postsecondary Education	15	-	54	-	-	288	357
Provincial Secretary & Government Services	-	-	-	-	-	-	-
Tourism	-	-	-	-	-	-	-
Transportation & Highways	-	-	-	-	-	-	-
Women's Secretariat & Youth Council	-	-	-	-	-	-	-
Total	**154**	**20**	**54**	**-**	**-**	**288**	**516**

(1) Includes only annual funding by Provincial Government.

Government of British Columbia

TABLE 56. Detail of Intramural Expenditures in the Social Sciences and Humanities, by Ministry or Agency, 1986-87

Ministry or agency	Current expenditures		Capital Expenditures	Total
	Personnel costs	Other costs		
	($'000)			
Attorney General	359	-	-	359
Consumer & Corporate Affairs	584	95	-	679
Education	901	225	-	1,126
Energy Mines & Petroleum Resources	1,250	1,355	-	2,605
Environment	68	17	-	85
Finance	60	20	-	80
Health	478	673	30	1,181
Human Resources	360	227	-	587
Industry & Small Business Development	3,461	1,320	230	5,011
International Trade, Science & Investment	521	227	-	748
Labour	194	6	-	200
Lands, Parks & Housing	100	50	-	150
Municipal Affairs	323	81	-	404
Postsecondary Education	1,110	186	-	1,296
Provincial Secretary & Government Services	2,711	1,064	62	3,837
Tourism	100	20	-	120
Transportation & Highways	-	-	-	-
Women's Secretariat & Youth Council	75	-	-	75
Total	**12,655**	**5,566**	**322**	**18,543**

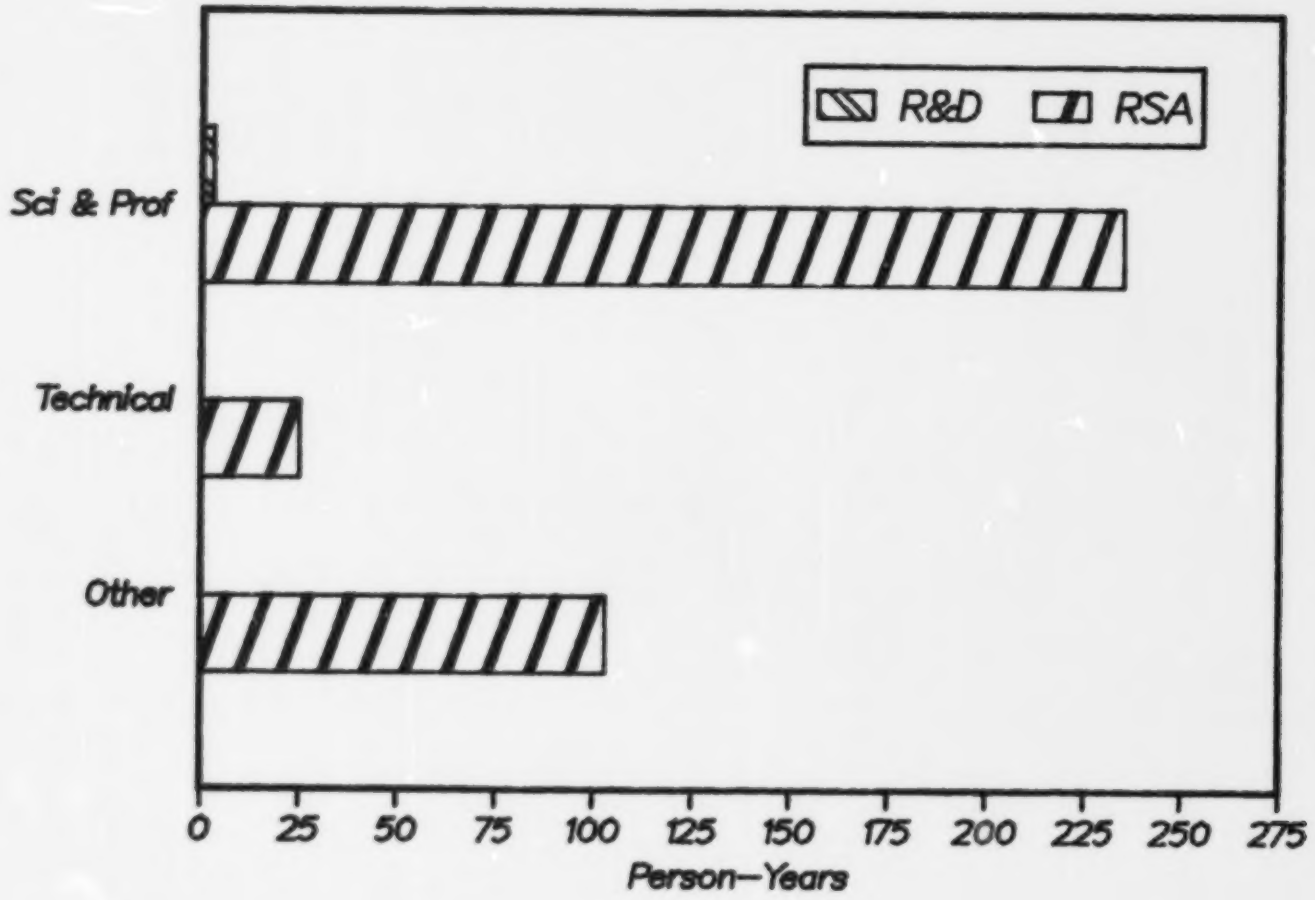
Government of British Columbia

TABLE 57. Ministerial Personnel Engaged in Scientific Activities in the Social Sciences and Humanities, by Ministry or Agency, Activity and Category, 1986-87

Ministry or agency	Research & development				Related scientific activities			
	Scientific & professional	Technical	Other	Total	Scientific & professional	Technical	Other	Total
	(person-years)							
Attorney General	1	-	-	1	5	-	2	7
Consumer & Corporate Affairs	-	-	-	-	14	-	5	19
Education	-	-	-	-	20	-	5	25
Energy, Mines & Petroleum Resources	-	-	-	-	23	-	10	33
Environment	-	-	-	-	2	-	-	2
Finance	-	-	-	-	2	-	-	2
Health	-	-	-	-	12	1	5	18
Human Resources	1	-	-	1	8	-	3	11
Industry & Small Business Development	1	-	-	1	62	5	28	95
International Trade, Science, & Investment	-	-	-	-	8	-	3	11
Labour	-	-	-	-	4	-	3	7
Lands, Parks & Housing	-	-	-	-	3	1	-	4
Municipal Affairs	-	-	-	-	6	-	1	7
Postsecondary Education	-	-	-	-	21	-	14	35
Provincial Secretary & Government Services	-	-	-	-	40	17	23	80
Tourism	-	-	-	-	3	1	-	4
Transportation & Highways	-	-	-	-	-	-	-	-
Women's Secretariat & Youth Council	-	-	-	-	2	-	1	3
Total	**3**	**-**	**-**	**3**	**235**	**25**	**103**	**363**

Chart 6. Government of British Columbia

Personnel Engaged in Activities in the Social Sciences and Humanities, by Activity and Category, 1986–87



Government of British Columbia

TABLE 58. Objectives of Expenditures in the Social Sciences and Humanities Sciences, by Ministry or Agency, 1986-87

Ministry or agency	Advancement of science	Communications	Energy & fuels		Health
			Fossil fuels	Hydro electric energy	
	($'000)				
Attorney General	-	-	-	-	-
Consumer & Corporate Affairs	-	-	-	-	-
Education	-	-	-	-	-
Energy, Mines & Resources	-	-	1,949	960	-
Environment	-	-	-	-	-
Finance	-	-	-	-	-
Health	-	-	-	-	1,570
Human Resources	-	-	-	-	-
Industry and Small Business Development	60	-	260	65	195
International Trade, Science & Investment	162	586	-	-	-
Labour	-	-	-	-	-
Lands, Parks & Housing	-	-	-	-	-
Municipal Affairs	-	-	-	-	-
Postsecondary Education	-	-	-	-	-
Provincial Secretary & Government Services	5	-	-	-	-
Tourism	-	-	-	-	-
Transportation & Highways	-	-	-	-	-
Women's Secretariat & Youth Council	-	-	-	-	-
Total	**227**	**586**	**2,209**	**1,025**	**1,765**

TABLE 58. Objectives of Expenditures in the Social Sciences and Humanities, by Ministry or Agency 1986-87 - Continued

Ministry or agency	Industrial & economic development					
	Agriculture	Fisheries	Forestry	Manufacturing	Minerals	Other
	($'000)					
Attorney General	-	-	-	-	-	-
Consumer & Corporate Affairs	-	-	-	-	-	-
Education	-	-	-	-	-	-
Energy, Mines & Petroleum Resources	-	-	-	-	-	-
Environment	-	-	-	-	-	-
Finance	-	-	-	-	-	95
Health	-	-	-	-	-	-
Human Resources	-	-	-	-	-	-
Industry and Small Business Development	163	162	1,135	2,075	598	-
International Trade, Science & Investment	-	-	-	-	-	-
Labour	-	-	-	-	-	-
Lands, Parks & Housing	-	-	-	-	-	-
Municipal Affairs	-	-	-	-	-	-
Postsecondary Education	-	-	-	-	-	-
Provincial Secretary & Government Services	-	-	-	-	-	-
Tourism	-	-	-	-	-	-
Transportation & Highways	-	-	-	-	-	-
Women's Secretariat & Youth Council	-	-	-	-	-	-
Total	**163**	**162**	**1,135**	**2,075**	**598**	**95**

Government of British Columbia

TABLE 58. Objectives of Expenditures in the Social Sciences and Humanities, by Ministry or Agency, 1986-87 - Concluded

Ministry or agency	Social development					Transportation	Wildlife	Total
	Culture, sport & recreation	Education	Human resources	Urban & regional studies	Other			
	($'000)							
Attorney General	-	-	-	-	848	-	-	848
Consumer & Corporate Affairs	-	-	-	-	679	-	-	679
Education	-	2,559	-	-	-	-	-	2,559
Energy, Mines & Petroleum Resources	-	-	-	-	-	-	-	2,909
Environment	30	-	-	-	-	-	55	85
Finance	-	-	-	-	-	-	-	95
Health	-	-	-	-	-	-	-	1,570
Human Resources	-	-	487	108	-	-	-	595
Industry and Small Business Development	580	220	90	273	-	180	65	6,121
International Trade, Science & Investment	-	-	-	-	-	-	-	748
Labour	-	-	206	-	-	-	-	206
Lands, Parks & Housing	150	-	-	-	-	-	-	150
Municipal Affairs	-	-	-	411	-	-	-	411
Postsecondary Education	-	1,546	-	-	-	-	-	1,546
Provincial Secretary & Government Services	4,436	-	-	5	-	-	-	4,446
Tourism	353	-	-	-	-	-	-	353
Transportation & Highways	-	-	-	-	-	119	-	119
Women's Secretariat & Youth Council	-	-	146	-	-	-	-	146
Total	**5,549**	**4,325**	**929**	**797**	**1,527**	**299**	**120**	**23,586**

Government of British Columbia

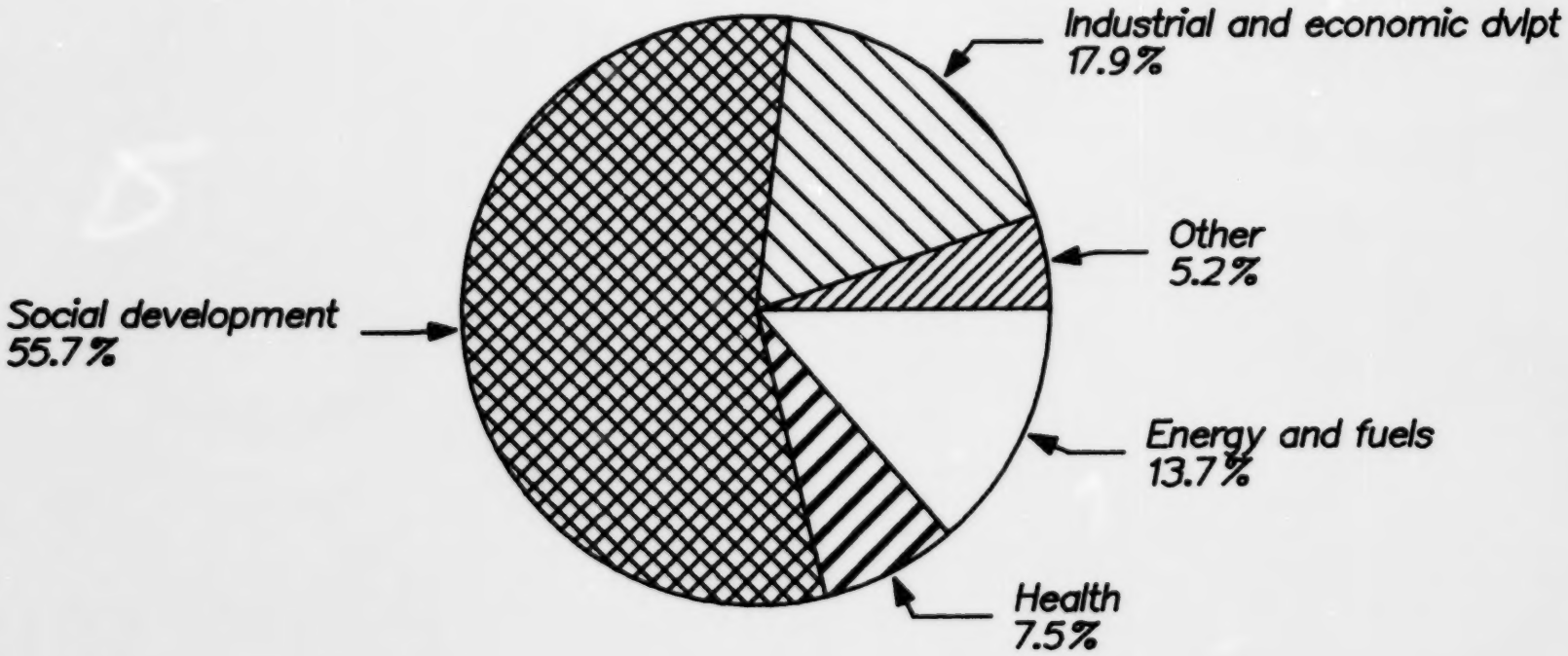
TABLE 59. Objectives of Expenditures in the Social Sciences and Humanities, by Activity, 1986-87

Objective	Intramural		Extramural		Total
	Research & development	Related scientific activities	Research & development	Related scientific activities	
	($'000)				
Advancement of science	60	167	-	-	227
Communications	-	586	-	-	586
Energy & fuels:					
Fossil fuels	-	1,945	-	264	2,209
Hydro electric energy	-	910	-	115	1,025
Other	-	-	-	-	-
Health	-	1,331	-	434	1,765
Industrial & economic development:					
Agriculture	-	125	-	38	163
Fisheries	-	125	-	37	162
Forestry	-	950	-	185	1,135
Manufacturing	-	1,750	-	325	2,075
Minerals	-	501	-	97	598
Other	-	80	-	15	95
Social development:					
Culture, sport & recreation	15	4,562	342	630	5,549
Education	-	2,597	-	1,728	4,325
Human resources	49	788	-	92	929
Urban & regional studies	-	709	-	88	797
Other	40	998	20	469	1,527
Transportation	-	150	-	149	299
Wildlife	-	105	-	15	120
Total	**164**	**18,379**	**362**	**4,681**	**23,586**

Chart 7.

Government of British Columbia

Objectives of Expenditures in the Social Sciences and Humanities, 1986–87



Government of British Columbia

TABLE 60. Total Expenditures in the Social Sciences and Humanities, by Activity and Performer, 1987-88(e)

Activity	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council(1)	Other	Total
	($'000)						
Research and development:							
Current expenditures:							
In-house	267	...	...	...	...	...	267
Contracts	200	15	54	-	-	222	491
Grants	...	-	25	-	25	86	136
Research fellowships	-	-	-	-	-	-	-
Sub-Total	467	15	79	-	25	308	894
Capital expenditures	10	...	...	...	...	...	10
Related scientific activities:							
Current expenditures	20,902	3,765	330	75	25	885	25,982
Capital expenditures	294	...	...	...	...	...	294
Total	**21,673**	**3,780**	**409**	**75**	**50**	**1,193**	**27,180**

(1) Includes only annual funding by Provincial Government.

Government of British Columbia

TABLE 61. Total Expenditures in the Social Sciences and Humanities, by Ministry or Agency and Performer, 1987-88(e)

Ministry or agency	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council(1)	Other	Total
	($'000)						
Advanced Education & Job Training	1,578	280	-	-	-	-	1,858
Attorney General	443	-	-	-	-	405	848
Economic Development	5,450	750	50	-	50	200	6,500
Education	1,148	1,462	-	-	-	-	2,610
Energy, Mines & Petroleum Resources	1,878	283	-	-	-	-	2,161
Environment & Parks	310	-	-	-	-	-	310
Finance & Corporate Affairs	789	20	-	-	-	-	809
Health	1,353	-	305	75	-	28	1,761
Labour & Consumer Services	200	-	-	-	-	-	200
Municipal Affairs	422	145	-	-	-	-	567
Provincial Secretary & Government Services .	2,714	-	-	-	-	-	2,714
Social Services & Housing	850	-	-	-	-	5	855
Tourism, Recreation & Culture	4,461	620	54	-	-	555	5,690
Transportation & Highways	-	120	-	-	-	-	120
Women's Secretariat & Youth Council	77	100	-	-	-	-	177
**Total	**21,673**	**3,780**	**409**	**75**	**50**	**1,193**	**27,180**

(1) Includes only annual funding by Provincial Government.

Government of British Columbia

TABLE 62. Total Expenditures in the Social Sciences and Humanities, by Ministry or Agency and Activity, 1987-88(e)

Ministry or agency	Research & development			Related scientific activities			Total
	Current	Capital	Total	Current	Capital	Total	
	($'000)						
Advanced Education & Job Training	-	-	-	1,858	-	1,858	1,858
Attorney General	80	-	80	768	-	768	848
Economic Development	100	10	110	6,150	240	6,390	6,500
Education	-	-	-	2,610	-	2,610	2,610
Energy, Mines & Petroleum Resources	-	-	-	2,161	-	2,161	2,161
Environment & Parks	-	-	-	310	-	310	310
Finance & Corporate Affairs	-	-	-	809	-	809	809
Health	-	-	-	1,761	-	1,761	1,761
Labour & Consumer Services	-	-	-	200	-	200	200
Municipal Affairs	57	-	57	510	-	510	567
Provincial Secretary & Government Services	-	-	-	2,714	-	2,714	2,714
Social Services & Housing	300	-	300	555	-	555	855
Tourism, Recreation & Culture	357	-	357	5,279	54	5,333	5,690
Transportation & Highways	-	-	-	120	-	120	120
Women's Secretariat & Youth Council	-	-	-	177	-	177	177
Total	**894**	**10**	**904**	**25,982**	**294**	**26,276**	**27,180**

Government of British Columbia

TABLE 63. Current Expenditures on R&D in the Social Sciences and Humanities, by Ministry or Agency and Performer, 1987-88(e)

Ministry or agency	Intramural	Industry	Universities	Hospitals & health organizations	B.C. Research Council(1)	Other	Total
	($'000)						
Advanced Education & Job Training	-	-	-	-	-	-	-
Attorney General	60	-	-	-	-	20	80
Economic Development	50	-	25	-	25	-	100
Education	-	-	-	-	-	-	-
Energy, Mines & Petroleum Resources	-	-	-	-	-	-	-
Environment & Parks	-	-	-	-	-	-	-
Finance	-	-	-	-	-	-	-
Health	-	-	-	-	-	-	-
Labour & Consumer Services	-	-	-	-	-	-	-
Municipal Affairs	42	15	-	-	-	-	57
Provincial Secretary & Government Services .	-	-	-	-	-	-	-
Social Services & Housing	300	-	-	-	-	-	300
Tourism, Recreation & Culture	15	-	54	-	-	288	357
Transportation & Highways	-	-	-	-	-	-	-
Women's Secretariat & Youth Council	-	-	-	-	-	-	-
**Total	**467**	**15**	**79**	**-**	**25**	**308**	**894**

(1) Includes only annual funding by Provincial Government.

Government of British Columbia

TABLE 64. Ministerial Personnel Engaged in Scientific Activities in the Social Sciences and Humanities, by Ministry or Agency, Activity and Category, 1987-88(e)

Ministry or agency	Research & development				Related scientific activities			
	Scientific & professional	Technical	Other	Total	Scientific & professional	Technical	Other	Total
	(person-years)							
Advanced Education & Job Training	-	-	-	-	25	-	15	40
Attorney General	1	-	-	1	6	-	2	8
Economic Development	1	-	-	1	69	5	30	104
Education	-	-	-	-	20	-	5	25
Energy, Mines & Petroleum Resources	-	-	-	-	23	-	10	33
Environment & Parks	-	-	-	-	4	2	-	6
Finance & Corporate Affairs	-	-	-	-	16	-	5	21
Health	-	-	-	-	16	1	5	22
Labour & Consumer Services	-	-	-	-	3	-	3	6
Municipal Affairs	1	-	-	1	6	-	1	7
Provincial Secretary & Government Services	-	-	-	-	22	7	19	48
Social Services & Housing	3	-	-	3	8	-	3	11
Tourism, Recreation & Culture	-	-	-	-	44	19	25	88
Transportation & Highways	-	-	-	-	-	-	-	-
Women's Secretariat & Youth Council	-	-	-	-	2	-	1	3
Total	**6**	**-**	**-**	**6**	**264**	**34**	**124**	**422**

Government of British Columbia

TABLE 65. Objectives of Expenditures in the Social Sciences and Humanities by Ministry or Agency, 1987-88(e)

Ministry or agency	Advancement of science	Communications	Energy & fuels			Health
			Fossil fuels	Hydro electric energy	Renewable resources	
	($'000)					
Advanced Education & Job Training	165	-	-	-	-	-
Attorney General	-	-	-	-	-	-
Economic Development	110	-	260	60	10	120
Education	-	-	-	-	-	-
Energy, Mines & Petroleum Resources	-	-	1,448	713	-	-
Environment & Parks	-	-	-	-	-	-
Finance & Corporate Affairs	-	-	-	-	-	-
Health	-	-	-	-	-	1,761
Labour & Consumer Services	-	-	-	-	-	-
Municipal Affairs	-	-	-	-	-	-
Provincial Secretary & Government Services	-	480	-	-	-	-
Social Services & Housing	-	-	-	-	-	-
Tourism, Recreation & Parks	5	-	-	-	-	-
Transportation & Highways	-	-	-	-	-	-
Women's Secretariat & Youth Council	-	-	-	-	-	-
Total	**280**	**480**	**1,708**	**773**	**10**	**1,881**

Government of British Columbia

TABLE 65. Objectives of Expenditures in the Social Sciences and Humanities, by Ministry or Agency 1987-88(e) - Continued

Ministry or agency	Industrial & economic development					
	Agriculture	Fisheries	Forestry	Manufacturing	Minerals	Other
	($'000)					
Advanced Education & Job Training	-	-	-	-	-	-
Attorney General	-	-	-	-	-	-
Economic Development	150	400	1,200	2,400	600	-
Education	-	-	-	-	-	-
Energy, Mines & Petroleum Resources	-	-	-	-	-	-
Environment & Parks	-	-	-	-	-	-
Finance & Corporate Affairs	-	-	-	-	-	130
Health	-	-	-	-	-	-
Labour & Consumer Services	-	-	-	-	-	-
Municipal Affairs	-	-	-	-	-	-
Provincial Secretary & Government Services	-	-	-	-	-	-
Social Services & Housing	-	-	-	-	-	-
Tourism, Recreation & Culture	-	-	-	-	-	-
Transportation & Highways	-	-	-	-	-	-
Women's Secretariat & Youth Council	-	-	-	-	-	-
Total	**150**	**400**	**1,200**	**2,400**	**600**	**130**

Government of British Columbia

TABLE 65. Objectives of Expenditures in the Social Sciences and Humanities, by Ministry or Agency, 1987-88(e) - Concluded

Ministry or agency	Social development					Transportation	Wildlife	Total
	Culture, sport & recreation	Education	Human resources	Urban & regional studies	Other			
	($'000)							
Advanced Education & Job Training	-	1,693	-	-	-	-	-	1,858
Attorney General	-	-	-	-	848	-	-	848
Economic Development	475	195	120	220	-	180	-	6,500
Education	-	2,610	-	-	-	-	-	2,610
Energy, Mines & Petroleum Resources ...	-	-	-	-	-	-	-	2,161
Environment & Parks	250	-	-	-	-	-	60	310
Finance & Corporate Affairs	-	-	-	-	679	-	-	809
Health	-	-	-	-	-	-	-	1,761
Labour & Consumer Services	-	-	200	-	-	-	-	200
Municipal Affairs	-	-	-	567	-	-	-	567
Provincial Secretary & Government Services	2,234	-	-	-	-	-	-	2,714
Social Services & Housing	-	-	700	155	-	-	-	855
Tourism, Recreation & Culture	5,680	-	-	5	-	-	-	5,690
Transportation & Highways	-	-	-	-	-	120	-	120
Women's Secretariat & Youth Council ...	-	-	177	-	-	-	-	177
Total	**8,639**	**4,498**	**1,197**	**947**	**1,527**	**300**	**60**	**27,180**

Government of British Columbia

TABLE 66. Objective of Expenditures in the Social Sciences and Humanities, by Activity, 1987-88(e)

Objective	Intramural		Extramural		Total
	Research & development	Related scientific activities	Research & development	Related scientific activities	
	($'000)				
Advancement of science	60	165	55	-	280
Communications	-	480	-	-	480
Energy & fuels:					
Fossil fuels	-	1,468	-	240	1,708
Hydro electric energy	-	670	-	103	773
Renewable resources	-	10	-	-	10
Health	-	1,473	-	408	1,881
Industrial & economic development:					
Agriculture	-	125	-	25	150
Fisheries	-	300	-	100	400
Forestry	-	1,000	-	200	1,200
Manufacturing	-	2,000	-	400	2,400
Minerals	-	500	-	100	600
Other	-	110	-	20	130
Social development:					
Culture, sport & recreation	15	7,380	332	912	8,639
Education	-	2,736	-	1,762	4,498
Human resources	250	827	-	120	1,197
Urban regional studies	92	680	20	155	947
Other	60	1,062	20	385	1,527
Transportation	-	150	-	150	300
Wildlife	-	60	-	-	60
Total	**477**	**21,196**	**427**	**5,080**	**27,180**

APPENDIX

DEFINITIONS

This report covers those scientific and technological activities which involve the generation, dissemination and application of new scientific and technological knowledge. The central activity is research and experimental development. In addition, there are a number of related scientific activities (RSA) which are considered in less detail.

R&D is creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society and the use of this stock of knowledge to devise new applications.

It requires the acquisition of knowledge and not just information. New knowledge involves the integration of newly acquired information into existing hypotheses, the formulation and testing of new hypotheses or the re-evaluation of existing observations.

The major related scientific activities are technical surveys, statistical surveys, information services, special services and studies and museum services. Statistical surveys, information services and museum services are largely self-explanatory.

Technical surveys are activities directed towards the exploration and systematic description of the earth and its natural resources. The activities include the gathering, processing, collating and analyzing of data on natural phenomena except when part of a research project or a museum service. The preparation of maps and survey reports, their printing and cataloguing, are also included.

Special services and studies in the natural sciences are activities directed towards the establishment of national and provincial standards for materials, devices, products and processes; the calibration of secondary standards; non-routine quality testing; feasibility studies and demonstration projects. In the social sciences, special services and studies are systematic investigations carried out in order to provide information needed for planning or policy formulation, including feasibility studies, and demonstration projects.

Activities are classified in either the natural sciences or social sciences and humanities. Natural sciences consist of disciplines concerned with the understanding, exploring, developing or utilizing the natural world. Included are the engineering, mathematical, environmental, life and physical sciences. Social sciences and humanities include all disciplines involving the study of human actions and conditions and the social, economic and institutional mechanisms affecting humans. Included are such disciplines as anthropology, business administration and commerce, communications, criminology, demography, economics, geography, history, languages, literature and linguistics, law, library science, philosophy, political science, psychology, religious studies, social work, sociology and urban and regional studies.

Five performing sectors are identified besides the B.C. Research Council. Intramural refers to the provincial government performing scientific activities with their own funds. Industry is largely of private corporations but also includes crown corporations with a commercial function (e.g., power utilities) and industrial research institutes not controlled by another institution. Universities cover post-secondary educational institutions and affiliated teaching and research facilities.

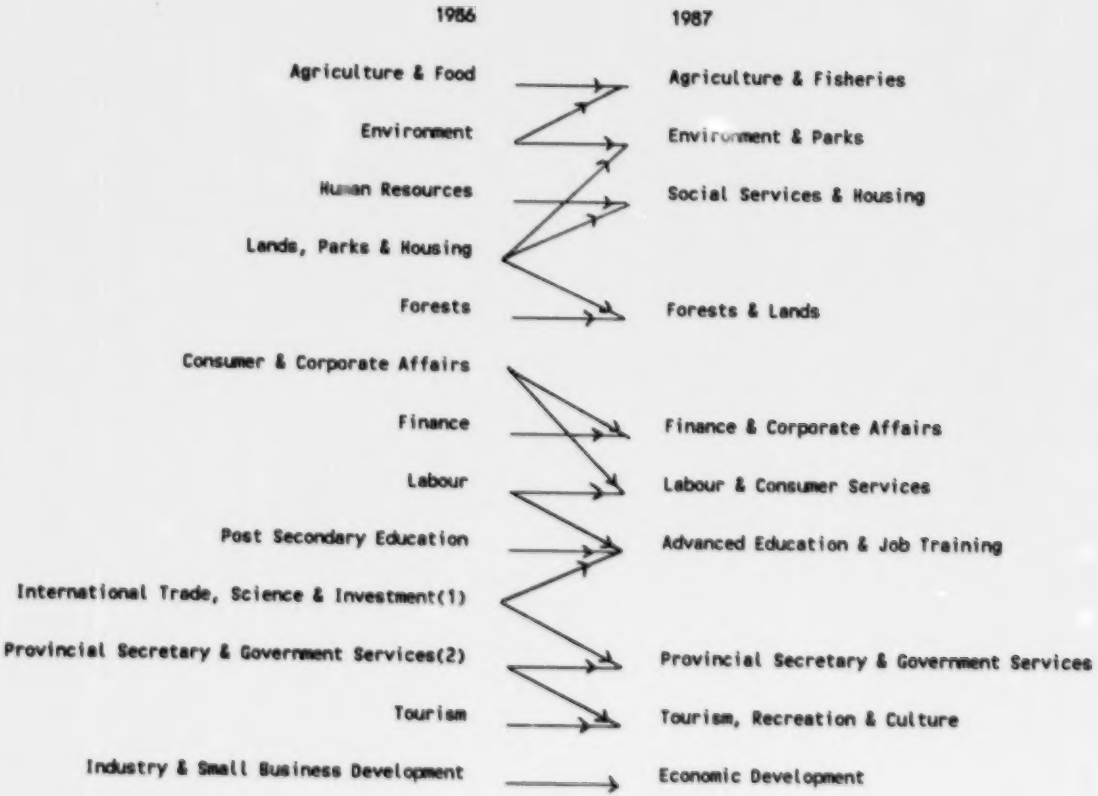
Hospitals and health organizations include health organizations such as the Heart Foundation and hospitals which do not belong to the universities sector. Other includes non-resident performers of scientific activities funded by the provincial government, as well as recipients not covered elsewhere such as the Federal Government, other provincial ministries and individuals.

Expenditures are either current or capital. Current expenditures include costs of personnel, transportation and communications, information, professional and special services, rentals, purchased repair and upkeep, utilities, materials and supplies. Capital expenditures are those for the construction and acquisition of land, buildings, machinery and equipment. Total expenditures include current plus capital.

THE RESPONDENTS

NOTE:

In November 1986, a number of ministries were reorganized. Mandates changed or were combined and/or shifted to newly created ministries. These ministries are shown historically under both old and new names:



(1) Communications Program moved to Provincial Secretary and Government Services; Science & Technology formed part of Advanced Edcation & Job Training.

(2) Provincial Museums, Recreation & Sports Branch and Heritage Conservation Branch joined Tourism to form Ministry of Tourism, Recreation & Culture.

THE RESPONDENTS

Agriculture and Food - Coordinator: Mark Aiysdurai (387-7168)

The main identifiable scientific program of the Ministry was the "Demonstration of Agricultural Technology and Economics" (D.A.T.E.). The Statistics and Quantitative Analysis Branch and the Information Branch were involved in the dissemination of information. As a result of the November, 1986 reorganization, the Aquaculture and Commercial Fisheries Branch moved to this Ministry from the Ministry of Environment.

Attorney General - Coordinator: Denis Hartman (384-4434)

The Police Services Branch and the Policy Planning Branch reported science activities in the social sciences and humanities. The related scientific activites of the Law Reform Commision were funded by the Ministry.

Consumer and Corporate Affairs - Coordinator: Kim Thorau (387-1289)

Related scientific activities were performed by the Policy and Legislation Divison and the Resources Centre. For the 1987-88 fiscal year, these programs are included with the Ministry of Finance and Corporate Affairs.

Education - Coordinator: Michael Shoop (356-2489)

The units reporting scientific activities were Policy and Planning, Legislation Services, Schools Programs, Schools Management and Special Education. Over one-half of the Ministry's science expenditures were extramural.

Energy, Mines and Petroleum Resources - Coordinator: Tim Chatton (387-1368)

The science activities of three different divisions were included in the Ministry's report: Petroleum Resources, Mineral Resources and Energy Resources. Only 2% of the Minstry's intramural expenditures were for R&D.

Environment - Coordinator: Roger Reid (387-9671)

This Ministry, the second largest performer of scientific activities, reported expenditures by Environmental Laboratory, Recreational Fisheries Branch, Resource Quality Secton, Surveys and Resource Mapping, Waste Management and Wildlife Branch. Aquaculture and Commercial Fisheries Branch were included with this Ministry's report for 1986-87, prior to the reorganization. The estimated expenditures of the Parks and Recreation Division of the Ministry of Lands, Parks, and Housing are included for 1987-88.

Finance - Coordinator: Ron Messent (387-3184)

Scientific expenditures were incurred by Treasury Board Staff.

THE RESPONDENTS

Forests - Coordinator: Gail Archibald (387-3370)

The branches which reported scientific activities in this Ministry were Inventory, Integrated Services, Protection, Research and Silviculture. Almost 85% of the total science and 80% of the research and development activities were performed by the Ministry itself. The Ministry of Forests was the largest government performer of scientific activities in the Province.

Health - Coordinator: William J. Laurence (387-2339)

Scientific activities were identified in four areas: Policy, Planning and Legislation, Vital Statistics, Administration and Support Services and the Library. The majority of this Ministry's science expenditures were in the social sciences and humanities. Only the Policy, Planning and Legislation Division reported any activities in the natural sciences.

Health Care Research Foundation - Coordinator: Max Cairns (438-2752)

The Foundation awarded grants and research fellowships to researchers in hospitals and health organizations and in the university sector. The Research Secretariat of B.C. provided administrative support to the Foundation.

Human Resources - Coordinator: Robin Hanvelt (387-6460)

The Research, Evaluation and Statistics Branch reported activities in the social sciences and humanities. With the addition of the Housing Division of the Ministry of Lands, Parks and Housing, the Ministry is now entitled the Ministry of Social Services and Housing.

Industry and Small Business Development - Coordinator: Roy A. Whitaker (387-0331)

Three divisions reported scientific activities: Economic Policy Development, Programs and Business Development and the Central Statistics Bureau. Less than 20% of the Ministry's scientific activities were contracted out to the various sectors.

International Trade, Science and Investment - Coordinator: T.A. Prentice (387-2034)

The Ministry provided funds to the Science Council of B.C. and the B.C. Research Council. The Science and Technology Division developed, planned and programmed recommendations for science policy and administered the Science and Technology Subagreement to ERDA. The November 1986 reorganization resulted in the moving of the Communications Program to Provincial Secretary and Government Services. The Science and Technology Division merged with Post-secondary Education and branches from Labour to form Advanced Education and Job Training.

Labour - Coordinator: Harnie Mitchell (387-1905)

Applied policy oriented research was performed by the Policy and Planning Branch.

THE RESPONDENTS

Lands, Parks and Housing - Coordinator: Ted Frechette (387-3963)

The Parks and Outdoor Recreation Division, now part of the Ministry of Environment and Parks, performed all its own scientific activities.

Municipal Affairs - Coordinator: Brian Walisser (387-4050)

The Policy and Research Branch and Municipal Development Services Branch carried out and funded studies on a variety of topics impacting on community development.

Post-secondary Education - Coordinator: Scott MacInnis (387-6157)

Four divisions within this Ministry were engaged in related scientific activities (RSA): Program Services, Mangement Services, Student Services and University Division. This Ministry is now a major part of the Ministry of Advanced Education and Job Training.

Provincial Secretary and Government Services - Coordinator: Frances Jones (387-0415)

The Natural History Section of the Provincial Museum represented the source of the natural science expenditures of this Ministry. In the social sciences, this report includes the expenditures of Provincial Museum, Recreation and Sports Branch, Heritage Conservation Branch and Provincial Archives. Of this group, only the Provincial Archives has remained with the Ministry.

Science Council of B.C. - Coordinator: Max Cairns (438-2752)

The Council provided awards for research projects, mainly to researchers in the university and industry sectors. The Graduate Research Engineering and Technology (GREAT) Awards, the Industrial Post-doctoral Fellowships (IPDF) and the Assistance Grants for Applied Research (AGAR) programs were administered by the Science Council. The Research Secretariat of B.C. provided administrative services to the Science Council and the Health Care Research Foundation.

Tourism - Coordinator: Jim Lee (387-1428)

The Management Services Division reported expenditures on related scientific activities (RSA). The Provincial Museum and Heritage Conservation Branch of Provincial Secretary and Government Services joined with this Ministry to form the Ministry of Tourism, Recreation and Culture.

THE RESPONDENTS

Transportation and Highways - Coordinator: John Hvozdanski (387-7709)
Debra Illing (387-5990)

The Transport Policy Analysis Branch provided subsidies to support technical research and other information activities carried out by Western Regional Advisory Council (WESTAC) and British Columbia Aviation Council (BCAC). Geotechnical and Materials Engineering Branch reported performing a variety of special services and studies.

Women's Secretariat and Youth Council - Coordinator: Lisa Harney (387-3600)

The Women's Secretariat coordinated all government initiatives related to women and ensured that issues affecting women were represented at the most senior levels of government. The Policy Planning and Research Program and Regional Programs undertook a number of special studies on a wide range of social and economic issues affecting women.

INDICATORS OF PROVINCIAL SCIENTIFIC ACTIVITIES

1. Population and Income

Province	Population January/87(1)		Personal income per capita 1985(2)		Provincial Gross Domestic Product per capita 1985(3)		Provincial Government NSE Expenditures per capita (1985-86)	
	(000)	Rank	($)	Rank	($)	Rank	($)	Rank
Newfoundland	579	9	10,552	10	10,770	9	26	5
Prince Edward Island	128	10	11,016	9	10,289	10	..	..
Nova Scotia	888	7	12,820	7	13,098	7	..	..
New Brunswick	722	8	11,910	8	12,220	8	31	3
Quebec	6,657	2	14,959	4	16,317	6	..	..
Ontario	9,270	1	17,410	1	19,887	2	17	7
Manitoba	1,081	5	14,850	5	16,645	5	27	4
Saskatchewan	1,022	6	14,219	6	16,925	4	31	2
Alberta	2,389	4	16,839	2	25,939	1	90	1
British Columbia	**2,926**	**3**	**16,214**	**3**	**18,490**	**3**	**21**	**6**
Canada(4)	**25,735**		**15,851**		**18,510**			

(1) **Canadian Statistical Review,** Statistics Canada, Catalogue No. 11-003E, August 1987.

(2) **National Income and Expenditure Accounts, 1970-1985,** Statistics Canada, Catalogue No. 13-201.

(3) **Provincial Economic Accounts, Experimental Data, 1970-1985,** Statistics Canada, Catalogue No. 13-213.

(4) Includes the Yukon and Northwest Territories.

INDICATORS OF PROVINCIAL SCIENTIFIC ACTIVITIES

2. Universities

Province	Graduate students per ten thousand population (15 years and over) 1985-86(1)		Sponsored research in universities per capita, 1985-86(2)	
		Rank	($)	Rank
Newfoundland	15	7	21	8
Prince Edward Island	-	10	6	10
Nova Scotia	28	4	34	5
New Brunswick	12	9	17	9
Quebec	33	1	34	4
Ontario	29	2	38	2
Manitoba	29	3	34	3
Saskatchewan	14	8	31	6
Alberta	27	5	41	1
British Columbia	**22**	**6**	**25**	**7**
Canada	**28**		**34**	

(1) Full-time enrolment for graduate degrees, per ten thousand population (15 years and over) **Universities Enrolment and Degrees, 1985-86,** Statistics Canada, Catalogue No. 81-204, and "Postcensal Estimate of Population by Sex and Age for Canada and the Provinces", June 1985, Population Estimates Section, Demography Division, Statistics Canada.

(2) **Financial Statistics of Universities and Colleges, 1985-86,** Canadian Association of University Business Officers.

INDICATORS OF PROVINCIAL SCIENTIFIC ACTIVITIES

3. Industry

Province	Value added by manufacturing activity per capita, 1984(1)		Current intramural industrial R&D expenditures per employee in primary and secondary industry, 1985(2)	
	($)	Rank	($)	Rank
Newfoundland	952	8	37	9
Prince Edward Island	771	10	91	7
Nova Scotia	1,941	5	59	8
New Brunswick	1,642	7	33	10
Quebec	3,681	2	742	2
Ontario	5,497	1	1,044	1
Manitoba	2,028	4	128	6
Saskatchewan	946	9	188	5
Alberta	1,869	6	610	3
British Columbia	**2,518**	**3**	**456**	**4**
Canada(3)	**3,654**		**741**	

(1) **Manufacturing Industries of Canada; National and Provincial Areas, 1984,** Statistics Canada, Catalogue No. 31-203.

(2) Results of 1985 Industrial R&D survey, Science, Technology and Capital Stock Division, Statistics Canada and **The Labour Force, July, 1987,** Statistics Canada, Catalogue No. 71-001.

(3) Includes the Yukon and Northwest Territories.

INDICATORS OF PROVINCIAL SCIENTIFIC ACTIVITIES

4. Federal Government

Province	Expenditures on intramural natural science activities 1985-86(1)	Federal personnel 1985-86(1)	Contracts awarded by the Science Procurement Sector, Department of Supply and Services, 1986-87(2)	
	($'000,000)	(Person-years)	Number	($'000,000)
Newfoundland	47	481	117	5
Prince Edward Island	7	132	12	--
Nova Scotia	113	1,628	319	10
New Brunswick	39	618	61	2
Quebec	241(3)	2,171(3)	357	25
Ontario	314(4)	4,454(4)	1,210	115
Ottawa-Hull	616	9,796	...	...
Manitoba	101	1,699	139	6
Saskatchewan	48	710	94	9
Alberta	101	1,439	271	12
British Columbia	**145**	**1,642**	**854**	**61**
Canada(5)	**1,795**	**24,911**	**3,458**	**247**

(1) "Federal Scientific Establishments", Science, Technology and Capital Stock Division, Statistics Canada.
(2) **Research and Development Bulletin**, April 1987, Supply and Services.
(3) Excluding Hull.
(4) Excluding Ottawa.
(5) Includes the Yukon and Northwest Territories.

INDICATORS OF PROVINCIAL SCIENTIFIC ACTIVITIES

5. Provincial Research Organizations

Province	Total expenditures on science and technology, 1986(1)	
	($'000)	Rank
Nova Scotia	6,503	7
New Brunswick	7,762	6
Quebec	28,485	2
Ontario	24,809	3
Manitoba	5,365	8
Saskatchewan	14,335	4
Alberta	39,443	1
British Columbia	8,232	5
Total	134,934	

(1) "The Provincial Research Organizations, 1986", **Science Statistics**, Vol. 11, No. 10, Statistics Canada, Catalogue No. 88-001.

INDICATORS OF PROVINCIAL SCIENTIFIC ACTIVITIES

6. Gross Domestic Expenditures on R&D in Canada, by Performing Sector, by Province, 1985(1)

Province	Federal government	Provincial government	Provincial research organization	Total government	Industry	University	Private non-profit	All sectors
	($'000,000)							
Newfoundland	34	1	-	35	4	28	-	67
Prince Edward Island	7	-	-	7	1	1	-	9
Nova Scotia	84	1	3	88	17	51	1	157
New Brunswick	32	2	2	36	28	24	1	89
Quebec	212	42	18	272	793	345	34	1,444
Ontario	681	49	17	747	1,961	616	47	3,371
Manitoba	88	5	3	96	21	73	5	195
Saskatchewan	45	3	5	53	50	49	-	152
Alberta	79	18	28	125	252	207	-	584
British Columbia	109	13	2	124	195	128	3	450
Canada(2)	1,375	134	78	1,587	3,330	1,522	91	6,530

(1) "Estimates of Canadian R&D Expenditures, by Region 1979-1985", Science, Technology and Capital Stock Division, Statistics Canada.

(2) Includes the Yukon and Northwest Territories.

INDICATORS OF PROVINCIAL SCIENTIFIC ACTIVITIES

7. Gross Domestic Expenditures on R&D in Canada, by Funding Sector, by Province, 1985(1)

Province	Federal government	Provincial government	Provincial research organization	Total government	Industry	University	Private non-profit	All sectors (3)
	($'000,000)							
Newfoundland	43	1	-	44	5	16	2	67
Prince Edward Island	7	-	-	7	1	1	-	9
Nova Scotia	110	4	-	114	15	21	5	157
New Brunswick	47	3	-	50	24	12	1	89
Quebec	433	156	3	592	646	93	44	1,444
Ontario	1,128	108	3	1,239	1,615	242	103	3,371
Manitoba	113	12	-	125	21	35	11	195
Saskatchewan	73	13	-	86	42	15	5	152
Alberta	150	101	-	251	191	107	12	584
British Columbia	180	27	-	207	155	52	17	450
Canada(2)	2,289	425	6	2,720	2,721	594	200	6,530

(1) "Estimates of Canadian R&D Expenditures, by Region, 1979-1985", Science, Technology and Capital Stock Division, Statistics Canada.

(2) Includes the Yukon and Northwest Territories.

(3) Includes Foreign sources of funds.

INDICATORS OF PROVINCIAL SCIENTIFIC ACTIVITIES

8. Gross Domestic Expenditures on R&D in the Natural Sciences in Canada, by Performing Sector, by Province, 1985(1)

Province	Federal government	Provincial government	Provincial research organization	Total government	Industry	University	Private non-profit	All sectors
	($'000,000)							
Newfoundland	34	1	-	35	4	20	-	59
Prince Edward Island	7	-	-	7	1	1	-	9
Nova Scotia	84	1	3	88	17	41	1	147
New Brunswick	32	1	2	35	28	16	1	80
Quebec	204	28	18	250	793	258	34	1,335
Ontario	630	38	17	685	1,961	425	44	3,115
Manitoba	88	5	3	96	21	55	5	177
Saskatchewan	45	3	5	53	50	38	-	141
Alberta	79	17	28	124	252	147	-	523
British Columbia	109	13	2	124	195	94	3	416
Canada(2)	1,316	107	78	1,501	3,330	1,095	88	6,014

(1) "Estimates of Canadian R&D Expenditures, by Region 1979-1985", Science, Technology and Capital Stock Division, Statistics Canada.

(2) Includes the Yukon and Northwest Territories.

INDICATORS OF PROVINCIAL SCIENTIFIC ACTIVITIES

9. Gross Domestic Expenditures on R&D in the Natural Sciences in Canada, by Funding Sector, by Province, 1985(1)

Province	Federal government	Provincial government	Provincial research organization	Total government	Industry	University	Private non-profit	All sectors (3)
	($'000,000)							
Newfoundland	42	1	-	43	5	9	2	59
Prince Edward Island	7	-	-	7	1	1	-	9
Nova Scotia	108	4	-	112	15	13	5	147
New Brunswick	45	2	-	47	24	6	1	80
Quebec	410	120	3	533	644	48	41	1,335
Ontario	1,056	84	3	1,143	1,608	96	96	3,115
Manitoba	111	11	-	122	20	21	11	177
Saskatchewan	71	11	-	82	42	8	5	141
Alberta	147	88	-	235	190	63	12	523
British Columbia	**175**	**25**	**-**	**200**	**154**	**27**	**16**	**416**
Canada(2)	**2,177**	**346**	**6**	**2,529**	**2,709**	**292**	**189**	**6,014**

(1) "Estimates of Canadian R&D Expenditures, by Region, 1979-1985", Science, Technology and Capital Stock Division, Statistics Canada.

(2) Includes the Yukon and Northwest Territories.

(3) Includes Foreign sources of funds.

INDICATORS OF PROVINCIAL SCIENTIFIC ACTIVITIES

10. Gross Domestic Expenditures on R&D in British Columbia, 1985(1)

Funding sector	Performing sector							
	Government				Business enterprise	Higher education	Private non-profit	Total
	Federal	Provincial	BCRC	Total				
	($'000,000)							
Government								
Federal	109	-	1	110	21	49	-	180
Provincial	-	13	-	13	7	7	-	27
ARC	-	-	-	-	-	-	-	-
Sub-total	109	13	1	123	28	56	-	207
Business enterprise	-	-	1	1	150	4	-	155
Higher education	-	-	-	-	-	52	-	52
Private non-profit	-	-	-	-	-	14	3	17
Foreign	-	-	-	-	17	2	-	19
Total	109	13	2	124	195	128	3	450

(1) "Estimates of Canadian Research and Development Expenditures by Region, 1979-1985", Science, Technology and Capital Stock Division, Statistics Canada.

INDICATORS OF PROVINCIAL SCIENTIFIC ACTIVITIES

11. Federal Government Grants and Contracts to Industry for R&D in the Natural Sciences, by Selected Department/Program and Region, 1985-86

Department/Program	NFLD	PEI	NS	NB	QUE(1)	ONT(1)	NCR	MAN	SASK	ALTA	BC	CANADA(2)
	($'000,000)											
A. R&D Grants:												
Regional Industrial Expansion:												
Industrial and Regional Development Program	0.1	1.1	2.3	0.3	13.0	21.6	2.0	3.6	0.8	1.5	**6.9**	53.3
Defence Industry Productivity Program	-	-	--	-	77.4	13.4	1.7	-	-	1.7	**6.5**	100.7
Other	0.1	-	1.8	0.3	2.5	3.2	-	0.3	0.7	-	**0.2**	9.1
Sub-total	0.2	1.1	4.1	0.6	92.9	38.2	3.7	3.9	1.5	3.3	**13.6**	**163.2**
National Research Council:												
Industrial Research Assistance Program	0.7	0.5	1.1	1.3	7.6	14.6	1.5	1.1	1.4	2.8	**4.7**	37.2
Program for Industry/Laboratory Projects	--	0.2	0.6	-	3.6	9.0	4.8	0.1	0.1	0.7	**2.6**	21.8
Other	0.3	-	-	-	12.2	2.4	1.2	-	-	0.1	**0.1**	16.3
Sub-total	1.0	0.7	1.7	1.3	23.4	26.0	7.5	1.2	1.5	3.6	**7.4**	75.3
Other	-	1.0	1.9	21.1	8.8	3.5	5.1	0.8	1.4	0.1	**0.4**	44.2
Total	**1.2**	**2.8**	**7.8**	**23.0**	**125.1**	**67.7**	**16.3**	**5.9**	**4.4**	**7.0**	**21.4**	**282.7**
B. R&D Contracts:												
National Defence	0.1	-	2.9	0.1	9.5	15.9	30.3	1.5	--	1.1	**3.6**	65.0
National Research Council	-	-	0.1	-	1.8	9.7	8.6	0.1	2.2	0.2	**0.1**	22.9
Supply and Services	0.1	-	0.5	-	1.7	3.6	1.7	-	0.3	0.3	**2.5**	10.7
Other	1.2	0.1	2.2	1.2	15.9	16.3	9.1	2.0	1.5	4.4	**9.4**	63.4
Total	**1.4**	**0.1**	**5.7**	**1.3**	**28.9**	**45.5**	**49.7**	**3.6**	**4.0**	**6.0**	**15.6**	**162.0**
Total, grants and contracts	**2.6**	**2.9**	**13.5**	**24.3**	**154.0**	**113.2**	**66.0**	**9.5**	**8.4**	**13.0**	**37.0**	**444.7**

(1) Excludes National Capital Region.

(2) Includes Yukon and Northwest Territories.

The data expressed here are regional representations and will not correspond to Canada aggregates shown in other Statistics Canada publications. Total may not add due to rounding.

Source: "Federal Government Science Expenditures by Region, 1981-82 to 1985-86", Science, Technology and Capital Stock Division, Statistics Canada, June 1987.

INDICATORS OF PROVINCIAL SCIENTIFIC ACTIVITIES

12. Federal Government Expenditures on Activities in the Natural Sciences, by Region and Selected Departments, 1985-86

Region	Agriculture	Energy, Mines and Resources	Environment	Fisheries and Oceans	Regional Industrial Expansion	National Research Council	Natural Sciences and Engineering Research Council	Other	Total
	($'000,000)								
Newfoundland	6	3	5	23	2	12	5	5	61
Prince Edward Island	6	2	-	-	2	1	-	-	11
Nova Scotia	10	13	12	62	6	9	12	26	150
New Brunswick	16	24	6	17	6	2	5	-	76
Quebec (excludes NCR)	58	29	40	39	98	64	61	142	531
National Capital Region (NCR)	81	161	11	17	14	193	24	213	714
Ontario (exludes NCR)	48	25	135	15	42	41	118	210	634
Manitoba	22	3	15	11	5	12	10	56	134
Saskatchewan	26	10	12	-	2	13	10	6	79
Alberta	45	26	22	2	4	5	24	34	162
British Columbia	**47**	**14**	**24**	**56**	**15**	**42**	**35**	**38**	**271**
Canada (1)	**365**	**313**	**301**	**242**	**196**	**394**	**304**	**731**	**2,846**

(1) Includes Yukon and Northwest Territories.

Source: **"Federal Government Science Expenditures by Region, 1981-82 to 1985-86"**, Science, Technology and Capital Stock Division, Statistics Canada, June 1987.

INDICATORS OF PROVINCIAL SCIENTIFIC ACTIVITIES

13. Federal Government Intramural Expenditures on Activities in the Natural Sciences, by Region and Selected Departments, 1985-86

Region	Agriculture	Atomic Energy of Canada Ltd	Energy, Mines and Resources	Environment	Fisheries and Oceans	National Defence	National Research Council	Other	Total
	($'000,000)								
Newfoundland	6	-	2	5	22	-	10	2	47
Prince Edward Island	6	-	-	-	-	-	-	1	7
Nova Scotia	8	-	11	12	58	16	7	1	113
New Brunswick	15	-	1	6	16	-	-	1	39
Quebec (excludes NCR)	54	-	15	38	38	40	35	21	241
National Capital Region (NCR)	76	-	153	11	17	16	176	167	616
Ontario (exludes NCR)	44	81	11	128	14	27	3	6	314
Manitoba	20	45	-	14	11	-	10	1	101
Saskatchewan	22	-	6	11	-	-	8	1	48
Alberta	44	-	22	21	-	13	-	1	101
British Columbia	45	-	10	22	50	10	7	1	145
Canada (1)	340	126	234	287	226	122	256	204	1,795

(1) Includes Yukon and Northwest Territories.

Source: "Federal Government Science Expenditures by Region, 1981-82 to 1985-86", Science, Technology and Capital Stock Division, Statistics Canada, June 1987.

INDICATORS OF PROVINCIAL SCIENTIFIC ACTIVITIES

14. Federal Government Intramural Expenditures on R&D in the Natural Sciences, by Region and Selected Departments, 1985-86

Region	Agriculture	Atomic Energy of Canada Ltd	Energy, Mines and Resources	Environment	Fisheries and Oceans	National Defence	National Research Council	Other	Total
	($'000,000)								
Newfoundland	6	-	2	-	12	-	10	1	31
Prince Edward Island	6	-	-	-	-	-	-	1	7
Nova Scotia	8	-	10	1	35	16	7	1	78
New Brunswick	15	-	1	2	12	-	-	-	30
Quebec (excludes NCR)	52	-	14	3	22	40	34	20	185
National Capital Region (NCR)	63	-	101	1	7	14	134	78	398
Ontario (exludes NCR)	42	75	9	28	2	27	3	4	190
Manitoba	16	42	-	1	10	-	10	2	81
Saskatchewan	22	-	6	5	-	-	8	1	42
Alberta	38	-	19	2	-	13	-	1	73
British Columbia	**43**	**-**	**6**	**1**	**34**	**10**	**7**	**-**	**101**
Canada (1)	**311**	**117**	**170**	**44**	**134**	**120**	**213**	**110**	**1,219**

(1) Includes Yukon and Northwest Territories.

Source: **"Federal Government Science Expenditures by Region, 1981-82 to 1985-86"**, Science, Technology and Capital Stock Division, Statistics Canada, June 1987.

INDICATORS OF PROVINCIAL SCIENTIFIC ACTIVITIES

15. Federal Government Personnel Engaged in Activities in the Natural Sciences, by Region and Selected Departments, 1985-86

Region	Agriculture	Atomic Energy of Canada Ltd	Energy, Mines and Resources	Environment	Fisheries and Oceans	National Defence	National Research Council	Other	Total
	(person-years)								
Newfoundland	102	-	-	83	221	-	59	16	481
Prince Edward Island	113	-	-	14	-	-	1	4	132
Nova Scotia	159	-	140	203	819	210	86	11	1,628
New Brunswick	294	-	1	112	201	-	3	7	618
Quebec (excludes NCR)	487	-	1	550	164	597	182	190	2,171
National Capital Region (NCR)	1,455	-	2,147	77	275	262	2,811	2,769(1)	9,796
Ontario (exludes NCR)	745	1,640	31	1,298	203	436	39	62	4,454
Manitoba	361	922	1	252	141	-	9	13	1,699
Saskatchewan	400	-	6	183	-	-	115	6	710
Alberta	607	-	212	435	-	178	2	5	1,439
**British Columbia ..... **	**425**	**-**	**74**	**356**	**544**	**139**	**93**	**11**	**1,642**
**Canada (2)..... **	**5,148**	**2,562**	**2,618**	**3,678**	**2,568**	**1,822**	**3,400**	**3,115**	**24,911**

(1) Includes 1,243 person-years for Health and Welfare Canada, 347 person-years for the Department of Communications and 354 person-years for National Museums of Canada.

(2) Includes Yukon and Northwest Territories.

Source: "Federal Government Science Expenditures by Region, 1981-82 to 1985-86", Science, Technology and Capital Stock Division, Statistics Canada, June 1987.

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Estimation of Research and Development Expenditures in the Higher Education Sector, 1985-86
Federal Government Expenditures on Activities in the Natural Sciences and Engineering, 1963-64 to 1987-88
Federal Government Expenditures on Activities in the Social Sciences and Humanitites, 1970-71 to 1987-88
Federal Personnel Engaged in Scientific Activities, 1978-79 to 1987-88
Federal Government Science Expenditures by Region, 1981-82 to 1985-86